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The business of trails

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The Business of Trails

This thesis is presented in partial fulfilment of the degree of
Master of Tourism Management

Kerstin Stender

Edith Cowan University
School of Business and Law
2017

USE OF THESIS

The Use of Thesis statement is not included in this version of the thesis.

Abstract

Long distance trails have substantial infrastructure due to their length and provision of overnight shelters. Length and remoteness impact negatively on travel time for access, resulting in high maintenance costs. Additionally, as government budgets are declining globally, funding for trails can be difficult to source, leaving infrastructure to deteriorate.

This research investigated how long distance trails are managed, specifically from the perspective of a tourism product in a natural protected area. Global case studies were based on site visits and interviews with trail managers around the world, as well as a review of written documentation. Through comparative analysis the components of trail management were identified, such as funding, volunteering, governance, partnerships, conservation, infrastructure and tourism. These components were then analysed within the context of their political, social and environment settings. This research investigated trails internationally: Australia - *Munda Biddi Trail*; New Zealand - *Nga Haerenga*; United States of America - *Arizona Trail*, *Appalachian Trail* and *Pacific Crest Trail*; United Kingdom - *West Highland Way*; Germany/Austria - *Lechweg*; Europe - *E-Paths*; South Africa - *Rim of Africa Trail* and South Korea - *Jeju Olle Trail*.

Four business approaches to the governance of trails were identified through the analysis of trail components and the application of Eagles' (2008a, 2009) governance model for tourism in protected areas. The four approaches are: business, community, volunteering and conservation; each based on their purpose, governing body, income, staffing, and mode of operation across tenure, among other criteria. The most financially sustainable model is the community approach, which involves a partnership between government and a not-for-profit organisation. It extends the income stream options and reduces overheads through the use of volunteers for maintenance. The level of infrastructure liability directly correlates with expense and is therefore a limiting factor for financial sustainability. Tourism strategies, such as marketing, promotion, and product and destination development, further extend the trail's financial sustainability by maximising user numbers and partnering with businesses. This also increases regional economic benefits and improves the user experience.

Transferability, generalisation and theory building of the research findings are refutable due to the small case study, but nevertheless it will fill a gap in the literature and provide ideas, concepts and governance models for trail managers to improve their trail's financial sustainability.

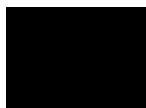
Declaration

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I am sure my friends are 'over' me studying, and hopefully they will be happy to see me around again. Thanks for hanging in there with me.

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Chapter One - Introduction

This research investigated how the management of long distance trail addresses the challenge of financial sustainability. It reviewed international business management models, the components and relationships, to determine the key factors in a sustainable trail management model. As one of the participants pointed out, without a model “trail managers fly by the seats of their pants”, often leaving trails poorly managed and maintained. Early stages of this research have been presented at the *International Trails Symposium 2013* in the United States of America (USA) and at the *World Trails Conference 2014* in South Korea and in Japan in 2016. Ten trails from seven countries and five continents were included in this study: the Western Australian *Munda Biddi Trail*; the New Zealand Cycle Trail *Nga Haerenga*; three trails from the USA - the *Appalachian Trail*, *Arizona Trail* and *Pacific Crest Trail*; three from Europe - the *West Highland Way*, *Lechweg* and *E-Paths*; the South African *Rim of Africa Trail* and the South Korean *Jeju Olle Trail*.

Following the overview of tourism and trails, this chapter introduces trails as a concept, an activity and infrastructure within the framework of tourism in natural protected areas. It describes the key terms of governance, partnerships, conservation, infrastructure, and tourism operations, which are all considered base components of trail management. The broader political, funding and cultural of volunteering environments are discussed in relation to their impact on economically sustainable trail management. These components of trail management were considered the criterion for the comparative case study analysis undertaken in this study. The existence of such a wide range of components points to the complexities of the research area and the difficulty for trail managers to identify and apply successful and sustainable trail management.

1.1 Overview of tourism

Modern tourism is an environmental and socio-cultural force with particular economic significance, according to Weaver and Lawton (2014). It evolved during the latter half of the twentieth century and has gone from a globally marginal economic activity to reaching one billion international stayovers in 2012 for the first time (UNWTO, 2016a). The United Nations World Tourism Organisation (UNWTO) (2016a) advised that international tourism arrivals almost reached US\$1.2 billion in 2015, marking the sixth year of above-average growth post the Global Financial Crisis year of 2010. These records were achieved in most destinations despite

increased safety and security concerns, making inbound tourism one of the world's major trade categories. UNWTO further report that Europe, the Americas, Asia and the Pacific saw the strongest growth with approximately five percent, followed by the Middle East with three percent. Only Africa saw a decline of about three percent, largely due to weak results in North Africa. UNWTO (2016a) projects that international tourist arrivals will continue to grow by four percent worldwide in 2016. In 2014 tourism accounted for more than ten percent of the global gross domestic product (GDP), or approximately US\$7 trillion, positioning tourism on the same level as agriculture or mining (Weaver & Lawton, 2014). This includes domestic travel, which is far greater than international travel on a global scale. In Australia, for example, over 90 percent of trips were domestic in 2011/12 (Weaver & Lawton, 2014). Despite well-known tourism bodies, such as the UNWTO, many people do not appreciate the size or economic influence of tourism (Weaver & Lawton, 2014).

A tourist is generally understood to be a person traveling temporarily outside of their usual environment for leisure, business or other purposes (Mathieson & Wall, 1982; Newsome, Moore, & Dowling, 2013; Weaver & Lawton, 2014). Tourism includes elements of demand and supply, including transport, attractions, services and information (Newsome et al., 2013). In the absence of a universal definition for tourism Weaver and Lawton (2014) built on Goeldner and Ritchie's (2012) version to include transportation and the management process:

Tourism may be defined as the sum of the processes, activities, and outcomes arising from the relationships and the interactions among tourists, tourism suppliers, host governments, host communities, and surrounding environments that are involved in the attracting, transporting, hosting and management of tourists and other visitors. (Weaver & Lawton, 2014, p. 3)

Most people travel for leisure and recreation at a global level, while others visit friends and relatives, pursue business, sport, spirituality, health or study. Saayman (2009) identified an international trend towards healthier lifestyles, a heightened awareness of green issues, and a move towards a quality experience. Adventure-based and nature-based tourism aim to provide a more meaningful and authentic experience than mass tourism (Newsome et al., 2013). With more people living in urban areas, and a shift away from consumption of materials towards experiences, it is thought that there is likely to be an increase in nature-based tourism (Hajkowicz, Cook, & Boughen, 2013). These points are reflected in people's holiday choices, with more visits to natural areas (Saayman, 2009). Around 2009, adventure tourism made up approximately one percent of the international outbound tourism market, with North America

being the largest generating market, about two to three million trips annually, closely followed by Europe with one million (Page, 2009). Page (2009) suggests that the potential market for adventure tourism is probably ten times its current size.

Protected areas cover about one-eighth of the world's landmass and are a major focus of nature-based recreation and tourism, according to Balmford et al. (2015). They suggest that terrestrial protected areas receive around eight billion visits annually, generating approximately US\$600 billion per year in direct in-country expenditure and US\$250 billion in consumer surplus. To be included in this research trails are required to traverse at least one protected area, though most traverse many and are largely based within protected and other natural areas, and are therefore included in the above statistics.

1.1.1 Tourism versus recreation

Trails also facilitate recreation activities. The concept of recreation in contrast to tourism provides a more comprehensive understanding of trail types and user groups. Recreation is defined as activity undertaken for leisure during discretionary time (Clawson & Knetsch, 2011). Greater social responsibility develops through recreation with concern for personal and community wellbeing (Torkildsen, 2012). Recreation is therefore often linked to health and wellbeing, whereas tourism is more likely described in economic terms. Trails used by local visitors close to home are generally considered recreational users who undertake leisurely activities, and are not prepared to travel far to their destination. If visitors travel further than their local neighbourhood, perhaps stay overnight and purchase meals, they are considered tourists. Recreation can be an aspect of tourism which entails travel.

1.1.2 Sustainable tourism

The Brundtland Commission, formally known as the World Commission on Environment and Development (WCED), released the *Our Common Future* report, also known as *Brundtland Report*, in 1987, which coined and defined the meaning of the term 'sustainable development' (Weaver & Lawton, 2014). Following this, the concept of sustainability became an integral aspect of the tourism industry, according to Weaver and Lawton (2014). They suggest that "sustainable tourism meets the needs of present generations without compromising the ability of future generations to meet their own needs" (p. 322). The new *Tourism and Visitor Services Management in Protected Areas: Guidelines for Sustainability* (Leung, Spenceley, Hvenegaard, & Buckley, 2014) still supports the definition of sustainable tourism from UNWTO and UNEP (2005, p. 11): "Sustainable tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the

environment and host communities". A balance must be established between environmental, economic and socio-cultural aspects of tourism development to achieve long-term sustainability, which incorporates a high level of tourist satisfaction and meaningfulness of experience. This means that "related environmental, socio-cultural and economic costs are minimised, while related environmental, socio-cultural and economic benefits are maximised" (Weaver & Lawton, 2014, p. 322). According to the UNEP and WTO this is achieved through:

1. Making optimal use of environmental resources that constitute a key element in tourism development, maintaining essential ecological processes and helping to conserve natural resources and biodiversity.
2. Respecting the socio-cultural authenticity of host communities, conserving their built and living cultural heritage and traditional values, and contributing to inter-cultural understanding and tolerance.
3. Ensuring viable, long-term economic operations, providing socio-economic benefits to all stakeholders that are fairly distributed, including stable employment and income-earning opportunities and social services to host communities, and contributing to poverty alleviation. (UNEP and WTO, 2005, p. 11)

This research specifically focuses on the long-term, viable economic operation of trails when referring to sustainability.

1.1.3 Types of tourism

There are many types of tourism, but this research investigated tourism associated with non-motorised trails within natural protected areas. These types of trails are connected to a number of different types of tourism, including natural area, nature-based, eco and adventure, as defined below.

Natural area tourism Tourism in a natural setting that is "underpinned by ecological sustainability and promoted and managed for optimal visitor experiences", which can include ecotourism, wildlife tourism, geotourism and adventure tourism (Newsome et al., 2013, p. 14).

Nature-based tourism Occurs in a natural setting with an emphasis of viewing nature and "fostering understanding and conservation of the natural environment" (Newsome et al., 2013, p. 14).

Ecotourism Sustainable, non-invasive form of nature-based tourism that focuses primarily on learning about nature first-hand, and which is ethically

managed to be low-impact, non-consumptive, and locally oriented (control, benefits and scale). It typically occurs in natural areas, and should contribute to the conservation of such areas. (Fennell, 2008, p. 24)

Adventure tourism Encompassing high levels of exertion, an element of risk, and the use of specialised skills to participate successfully and safely in the activity. The natural environment is often the backdrop or place in which the activity takes place and not the focus of tourism activity. (Newsome et al., 2013, p. 30)

1.2 Overview of trails

Many nature-based tourists spend at least some time on a variety of walking, cycling or other trails. For example, there are over 300,000 visit days on the *Bibbulmun Track* in Western Australia annually (Hughes, Smith, & Tuffin, 2016). Trails, and trail visits, may be considered as nature-based or adventure tourism, with viewing of nature or activity as the primary objectives (Newsome et al., 2013). The user survey by Hughes et al. (2016) identified that access to scenic natural areas, and connection with and increased appreciation of nature, were two of the top nature-based personal benefits for hikers on the *Bibbulmun Track*. Walking as a physical and mental health activity was a top activity-based benefit. Page (2009) suggests that couples, families or friends seek a holiday where they can enjoy opportunities to get out on trails, although not necessarily every day.

The following definition of 'trail' has been chosen to guide this research, as it provides sufficient leeway in regards to the formality of a trail, while identifying the link to the environment and heritage.

A trail can be a corridor, route or pathway with strong linkages with the natural environment, open space networks and cultural heritage. Land-based trails typically have a trail corridor that is distinguishable from the surrounding landscape. There is normally a visible trail surface, pathway or series of signs, trail markers or landmarks. (South Australian Trails Coordination Committee, n.d., p. 1)

According to Davis, who is a Welsh trail expert responsible for the development of the well-known Coed-Y-Brenin mountain bike trails, "... trails are actually very powerful things that not only provide conduits into and around landscapes and give access to all kinds of places for all sorts of people, but also often define our experience of places and landscapes at all kinds of

levels” (Davis, 2012a, p. 1). There are a wide range of benefits from trails. The following list is adapted from Elkinton (2004), who was the Leader for the National Trails System Program in the USA. Trails:

- Preserve open space and significant natural and cultural resources
- Provide a natural respite in urban areas
- Foster educational opportunities
- Increase nearby land values
- Buffer and protect wetlands and waterways
- Link historic sites and landmarks
- Provide opportunities for alternatives to car transportation
- Support native species and habitats
- Foster ecological processes and functions
- Foster human and community health and fitness through recreation
- Link neighbourhoods to nature
- Provide economic opportunities through tourism.

In addition, Elkinton (2004) discusses about the concept of ‘green infrastructure’, which encompasses not just the trail itself, but also includes a wide range of other multi-dimensional aspects, including transportation, safety and security, wildlife and vegetation management, education, runoff and erosion, community economics, community quality of life, heritage interpretation and accessibility. Aligning with other interests leads to a broader support base and longevity of trails (Elkinton, 2004). Timothy and Boyd suggest that:

In most cases, trails and routes are seen by destinations as a tool for conserving natural and cultural environments, involving community members in decision-making, earning more tax dollars and regional revenue, and improving the quality of life of residents through employment and the development of a resource they can utilise for their own enjoyment or transportation. (2015, p. 2)

1.2.1 Economic impacts

Trails can create significant economic benefits, which is supported by case studies and economic impact statements (Eastin, n.d.; Faulks, Ritchie, & Fluker, 2007; Timothy & Boyd, 2015). Timothy and Boyd (2015) state that direct and indirect spending of trail users can have major economic impacts. For example the 45 mile long *Washington and Old Dominion Trails* in Virginia results in an annual economic benefit of between US\$14 and US\$22 million, which is primarily spent

locally. The annual direct visitor expenditure on the *Bibbulmun Track* is estimated at A\$13.1 million annually (Hughes et al., 2016). Trail development can be expensive, but return on investment is usually worthwhile from a regional economic perspective (Timothy & Boyd, 2015). Eastin (n.d.) refers to USA based, national real estate surveys which state that access to trails from the home is the second most important aspect of their community amenity, with 65% indicating that this makes it easier to sell a home. Other regional economic benefits include engagement of contractors during construction and maintenance, and job creation and provision of service, such as for interpretation and tours, food and meals, accommodation, equipment rental, transport and other commercial enterprises (Timothy & Boyd, 2015). Traffic congestion could also be reduced substantially, as 50% of all car excursions are less than 3 miles, a distance easily transmutable by bicycle (Eastin, n.d.).

1.2.2 Health benefits

Parks and recreation, which includes trails, are considered to play a central role in the promotion and provision of health, according to Godbey and Mowen (2010). The authors suggest that parks and recreation services form part of the healthcare system of the USA. Their park surveys show that most people are physically active during visits, often reporting moderate to high levels. Further physical activity is directly related to supply and accessibility of government parks and recreation services, with a particular mention of trails, as these are usually available at low or no cost to the individual.

Other studies also showed that walking on trails increased physical activity, improved health and fitness and lowered healthcare costs (Eastin, n.d.; Goldenberg, Hill, & Freidt, 2008; Moulton, 2009). A cost-benefit analysis of bike and pedestrian trail use in Nebraska found that every US\$1 of investment in trails for physical activity led to US\$2.94 in direct medical benefit (Eastin, n.d.). Physical activity controls weight and high blood pressure, reduces Type 2 diabetes, heart attack and colon cancer, reduces symptoms of depression and anxiety, reduces arthritis and disability and prevents osteoporosis and falls, according the *Trails for Health* brochure (Department of Health and Human Services, n.d.). Health and fitness is one of the most cited uses of trails (Timothy & Boyd, 2015). Trails also allow families to spend quality time together, and it can change how they recreate by taking shorter vacations with a more family orientated focus (Eastin, n.d.). Louv (2005) developed the term 'nature deficit disorder', which defines the mental impacts of the lack of nature experiences. This is discussed further in the literature review section.

1.2.3 History of trails

Trails have existed for centuries, understood in the past as travel, trade, or pilgrimage routes. Over time they have been indispensable to travel and tourism, providing the basis for past and present mobility patterns (Timothy & Boyd, 2015). According to Timothy and Boyd (2015, p. 19) trails have been blazed and utilised by humans throughout history “for hunting, gathering, herding and trading pursuits, among which were built established routes that would see explorers, traders, migrants, pilgrims and later tourists”. Some of these routes would become well defined, developing into trails now utilised by visitors who are seeking a range of experiences. Examples of these are the Spanish *Camino Trail* (Timothy & Boyd, 2015), the *Oregon Trail* (W. E. Hill, 2000) and the Western Australian Aboriginal trading route, now known as the *Bibbulmun Track* (“Bibbulmun Track,” n.d.). Since the mid-1900s, most likely as a result of the development of national parks, the concept of trails emerged for the purpose of recreation and enjoyment of the natural environment (DuFresne, 1998). The *Milford Track* in New Zealand was one of the earliest to be constructed in 1888 for walking in the bush (Unknown, n.d.). The *Appalachian Trail*, in the USA, was formed in 1921 for the purpose of recreation, appreciation and protection of nature, which made it one of the first specifically formed for recreation (ATC, n.d.). With this the USA pioneered the official designation of trails, which soon followed in other countries (Timothy & Boyd, 2015). The systematic movement towards establishing nature trails for distinct purposes, such as hiking, only commenced from around the 1950s (Timothy & Boyd, 2015; Walker, 1996).

In Britain many of the long distance trails were developed during the ‘visionary long distance routes’ period between 1930 to 1980, according to Lane (1999). Their purpose was to provide access across the countryside, primarily for the walking elite, mostly middle aged men. These routes were never thought of as a tourism product, were not marketed, no luggage services were provided nor trail holiday package options offered. Lane (1999) noted that the following period between 1980 and 1999 was characterised by the development of short distance routes. This trail boom coincided with a growing demand for outdoor recreation and rural tourism. Many of the trails developed during this time became successful tourism products, including Austria’s *Danube Trail*, Britain’s *Coast to Coast Trail* and Spain’s revived *Compostela Pilgrimage (Camino) Trail* (Lane, 1999). This was also the period when trails diversified to cater for new and different user groups, and variations included circular and themed trails, reflecting steadily increasing use and popularity (Lane, 1999; Timothy & Boyd, 2015).

There is an extensive history of legislation for trail development in the USA, making them a leader in this field (Timothy & Boyd, 2015). After a surge of interest in the environment and

natural resource conservation, combined with outdoor pursuits, the *Wilderness Act 1964* paved the way for future restricted access by foot or horse into protected areas (Downs, 2000). Four years later, in 1968, the 40,000 mile National Trails System was established by Congress under the *National Trails System Act 1968*. This Act provided the conveyance of any interest in land for a national trail which qualifies for a conservation tax deduction. Other supportive legislation was the *Land and Water Conservation Fund Act 1964*, which set out the source of funding for states to protect and develop their trails. The *Volunteers in the Park Act 1969*, along with the *Volunteers in the National Forests Act 1972*, provided for the labour for planning, construction and management. The *National Trails System Act 1968* was accompanied with an additional land acquisition and protection program. Unlike any other natural resource or environment law, under the *National Trails System Act 1968* Downs (2000, n.p.) suggests that “federal agencies are authorised to encourage volunteers and volunteer organisations to plan, develop, maintain, and manage, where appropriate, trails throughout the nation”.

This model required a range of well-developed trail partnerships in the USA, and Downs (2000) provides the following information about the specifics under the National Trails System. As it is largely made up of private and non-federal public land it was considered best to manage it through partnerships with states, non-government organisations (NGO) and landowners through a decentralised approach. Typically, the principal NGO assists the federal lead agency with the coordination of other partnering NGOs in regards to activities and events, conservation and historic preservation, local government and university involvement. The NGO may take charge of ongoing oversight of the trail in areas of communication and public outreach, fundraising, planning and implementation of trail design, construction, marking, assisting other smaller NGOs with technical expertise and tools, and develop maps, brochures and guidebooks for trail promotion. Other areas of involvement are also likely to include contribution towards the development of management plans, and purchasing and acquiring land donations. The *Volunteer in the Park Act 1969* expressly forbids volunteer involvement in the policy process. An NGO focus may be local but not in the national interest. It is therefore considered that policy and priorities need to be set by the federal agency and adhered to by partners.

Trails provide important opportunities for tourism by bringing visitors to the region who spend money during their visit. Trails were showcased as a tool for tourism development In the United Kingdom, which required them to be economically productive if at all possible (Lane, 1999). Lane (1999) stated that in 1996 an estimated 850 million walking trips generated an estimated £2 billion as a leisure activity.

The concept of a tourism trail, which becomes a destination in its own right, and has economic benefits as one of its aims, is still a fairly recent development. A good example of this is the *Otago Trail*, New Zealand's first rail trail, which was opened in 2000 after the closure of the railway in 1990 (DOC, n.d.-b). The success of the *Otago Trail* was the inspiration for the newly developed *Nga Haerenga* trails (Dunn, 2012). Another example is the *Bibbulmun Track*, which was developed as tourism infrastructure by the government department responsible for protected areas through income from its forestry operations (Buckley, 2010). In a later publication Buckley (2011) stated that the *Bibbulmun Track* is widely considered an example of successful parks and tourism management, while no money was contributed to conservation.

1.2.4 Type of trails

A great variety of trails exist around the world. They can be short or long, circular, linear or part of a network. They might be attached to a recreation site and provide access to points of interest, or they might be the purpose of recreation. They can be motorised, or non-motorised, and can entail a wide range of recreational transport, including hiking, cycling, horse riding and paddling. Scotland's Great Trails define trails as being for people-powered journeys, with each being distinctively way marked, largely off-road and having a range of visitor services ("Scotland Great Trails," n.d.). In the USA, under the National Recreational Trails program, trails are considered primarily non-motorised routes ("NPS," n.d.).

Timothy and Boyd (2015) have divided trails into three main categories: cultural routes and heritage trails, nature trails and mixed routes. Cultural routes can follow traditional trade, pilgrimage and migration paths, or they can be along built linear structures, such as railways, canals, and political boundaries. They may also be theme based, including urban heritage, film, art, food or wine. Within this category two distinct types are defined, "those that have organically evolved and those that have been deliberately designed as tourism opportunities and part of a region's attraction base" (p. 57). Nature trails include wilderness, ski, water, geology, forest, canopy and also long distance trails. Mixed trails represent those that overlap the other two categories. According to Timothy and Boyd, nature trails have been developed specifically for tourism, or where modified from a type of recreational use.

In Australia, trails have been categorised into local trails, regional trails and national trails by the South Australian Trails Coordination Committee (n.d.). Under their definition, local trails are primarily for local users; tend to be basic, have very limited infrastructure, and are most likely less than a few kilometres in distance. They therefore meet demands of recreational users, who do not need to travel far to access them, or spend much on other items, such as accommodation

and services. Regional trails provide a more enhanced experience, increased infrastructure, attract intrastate and interstate visitors and generate significant economic benefits to the region. National trails provide an outstanding experience, are likely to have the highest level of infrastructure, attract intrastate and international visitors and generate significant economic benefits to the state (South Australian Trails Coordination Committee, n.d.).

Around the world, national trails are important for their unique qualities and features, for example they may be in an attractive area, or they are connected to a place of special significance, be it cultural or environmental. Trails of national importance may be linked as a network of trails within a local area. For example, the *7Stanes* mountain bike trails in Wales are an internationally known network of trails ("7Stanes ", n.d.). There is a central visitor centre, which includes a coffee shop and bike repair, and visitors ride on the various trails during the day before returning to their accommodation. National trails may be important due to their length, substantial infrastructure and the number of communities affected. Another example are Scotland's Great Trails, formerly known as Long Distance Trails, which have a minimum length of 25 miles ("Scotland Great Trails," n.d.). One of the current 23 routes is the *West Highland Way*, a trail participating in this research. In the USA the National Trails System designation incorporates national importance as an inclusion criteria ("NPS," n.d.). There are three types of trails under the System, the National Scenic Trails, their long distance version, National Recreation and National Heritage Trails. Examples of the National Scenic Trails are the *Appalachian Trail* and the *Arizona Trail*, which were included in this research.

Long distance trails require trail users to seek overnight accommodation along the way, which may be provided in communities along the route, like the *West Highland Way*. Or shelters and camp sites are provided on the trail, as in the case of the *Munda Biddi Trail* in Western Australia. Trail networks can have a central point, or trail hub, from which trail users explore different routes (Miami-Dade County, 2010). Hubs provide information of trails in the area, can be combined with services and access to transport if there is sufficient critical mass. Multiple trail activity structured through a central meeting point especially offers development and promotion opportunities, including a hierarchy of brand trail designation (DSR, 2016). This can enhance a trail's potential for income streams, such as visitor centres, shops, cafes, repair places and fee based trails and parking (DSR, 2016; Miami-Dade County, 2010; Timothy & Boyd, 2015). The day use nature of trail networks means that camp sites and shelters are not required, reducing the maintenance and management responsibilities.

Due to their linear nature long distance trails do not have a central hub, but have multiple entry points, and some have overnight shelters. Trail users tend to pass each point only once in a linear way, and start or end points generally do not attract sufficiently high visitor numbers to warrant a hub, though they can be linked into networks with hubs. According to Timothy and Boyd (2015), visitors are more dispersed on a linear route than through a centralised hub or point, reducing commercial development opportunities and therefore income for long distance trails. There are some income streams for long trails, for example charging a user fee, however Timothy and Boyd (2015) suggest that the length impacts negatively on travel time of rangers to check on valid trail passes, especially when the access points cannot be controlled. This makes the charging of fees unviable, as the cost of paying for staff time and vehicle travel costs outweighs income from fees, especially if visitation is low. Most trails throughout the world are provided by governments free to the public (Timothy & Boyd, 2015), which is probably reflective of complexities in gaining income from the trail, the unwillingness of visitors to pay, as well as political direction.

Infrastructure maintenance includes the management of trail erosion and vegetation regrowth, repairs and replacements of bridges, shelters and other structures, signage and trail marking, and toilet management. Maintenance of long distance trails is particularly complex and expensive due to large distances and accessibility issues, often involving volunteer assistance where limited paid staff do not reach (Timothy & Boyd, 2015). Trails also typically cross several local and state boundaries, traverse a wide range of tenures, and pass many communities. An example of this is the *Lechweg*, a trail in this research, which crosses the German and Austrian border. This magnitude of distance and cross-boundary nature often requires the varying government and private land owners, trail managers and other stakeholders to jointly provide trails through collaborative efforts (Timothy & Boyd, 2015). This research will therefore focus on long distance trails, often the most expensive trails to maintain and manage, and with the least income opportunities.

For the purpose of this research, 'long trail' refers to a long distance trail. The distance which makes a long trail varies throughout the world. In Scotland a long trail is referred to as Great Trail with a minimum of 25 miles length ("Scotland Great Trails," n.d.). The USA version is called National Scenic Trail and has a minimum length of 100 miles, is a continuous, primarily non-motorized route of outstanding recreation opportunity ("NPS," n.d.). As long trails from both countries are included in this research, the defined length of a long trail is a minimum of 25 miles, or 40 kilometres.

1.2.5 Sustainable trails

Sustainable management and maintenance of trails is partially dependent on physical characteristics, such as the design of the trail in a suitable location and environment. The South Australian Coordination Committee (n.d.) defines sustainable trails as a high quality recreational experience (trail) developed in a landscape and community that is capable of supporting the activity and is economically sustainable. Unphress (2011) suggests an overriding concept is that a sustainable trail provides for the protection of natural resources. "The trail being operated cost effectively, that it is maintained efficiently, and that it will continue to enhance the recreation experience over time" is another key component (Unphress, 2011, n.p.). She further recommends that planning and management should involve trail users to be relevant. Unphress (2011) identifies four key sustainable trail management aspects. Resource sustainability requires trails to be maintained so as to not negatively impact on the environment. Economic sustainability means that over time trails will deliver a return on the investment. Experience sustainability entails planning the trail for level of difficulty and for a specific purpose to ensure ongoing satisfactory use. Political sustainability reflects the level of happiness the community will feel about having this trail in their neighbourhood.

Sustainable trails are dependent on income available for their management and maintenance, either being generated through the trail itself, or otherwise provided. According to Davis (2012a) a sustainable trail must be matched to a sustainable and appropriate management model. In his view the management model would shape all aspects of trail planning and development, and the following points need to be considered to achieve a sustainable trail management model:

- Status of the trail
- Responsibility for the trail (trail provider)
- Scope and scale of the trail development
- Nature of the trail (system) and the trail model
- Nature of the trail users and cohorts
- Resources required
- Source of the resources, i.e. centrally funded management, be cash neutral and the need to generate income to cover management. (Davis, 2012a, p. 19)

Lane (1999), in an older but still very relevant article, was one of the first to consider trails and tourism together specifically. He suggests a handbook be developed which would assist trail and tourism managers to develop the link between the two. In Lane's view there are six criteria that

make trails work for tourism. It must be designed to be attractive to its market. The assessment of likely markets determines the design. Successful trails require effective marketing in a highly competitive tourism industry and learn from and collaborate with the private sector. They also require product development and a partnership approach between public, private and non-profit.

The definition of a trail should therefore include sustainable development principles, such as environmental, socio-cultural, economic, experience and political factors. The consideration of trails within a tourism framework additionally require aspects of product and destination development, and marketing within a partnership setting. This research applies a global perspective to trail management which requires broader thinking of political and cultural environments, combined with diverse funding arrangements. Further, this research explores trails within their natural environment, often in the form of protected areas, adding another layer of complexity. While several aspects of sustainability have been discussed, this research does not address all of these aspects but focusses on financial sustainability. Having the right trail in the right location is paramount and this substantially impacts on the financial sustainability of trail management, due to extensive maintenance cost for poorly designed trails for example. Trail development and design aspects are excluded from this research.

The aspects of trail management analysed in this research are those that effect the financial management, either as broad and often countrywide political and cultural environments, or governance components which are within the trail managers' control. The components internal and external to trail management will establish the basis for this research and allow direct comparison between the case studies.

1.3 External trail management factors

Political, funding and culture of volunteering are factors that contribute to the sustainability of trails. These factors set out the opportunities and limitations for trails which are outside the control of a trail manager. To fully understand these and provide a global management model template, each factor needs to be considered as a variable. While trail managers tend to not be able to change these external influences, without fully understanding their consequences a trail cannot be managed to its best capacity.

1.3.1 Political

In addition to local issues, nationally significant trails, such as those participating in this research, require a supportive political environment at a state or national level. Trails considered in this research are largely located within protected areas, which require a legislative framework to

exist. In addition to protective components, protected area legislation determines how money can be raised and where it is spent, such as directing user fees income to trail maintenance (Eagles, 2008a; Lockwood, 2010; More, 2005). Some countries or regions have developed legislation specific to trails which address their unique circumstances and requirements. For example, in Scotland most land is privately owned, including within national parks, and recreation in the natural environment can only be achieved through public access of private land. This results in several acts and codes, such as the *Countryside (Scotland) Act 1967*, the *Land Reform Act (Scotland) 2003* and the Scotland Outdoor Access Code. Trails provide the means for this access. The *National Trails System Act 1968* in the USA sets out one of the most advanced legislative frameworks for the development and management of trails in the world ("National Trails System Act," 2009). According to Timothy and Boyd (2015), a country's legislative system sets out the wider policy environment as the foundation for trails. They further note that large scale trails are exclusively reliant on supranational or national government policies and legislative actions, which are mirrored in smaller scale at local government level. The political conditions are discussed further in the literature review.

1.3.2 Funding

Long trails are expensive to maintain and manage, and therefore require regular on-going income. This is generally generated from government funding, grants, donations, user fees and indirectly through ancillary visitor spending (Timothy & Boyd, 2015). Trails are often managed, at least in part, by a non-profit organisation. For them memberships, donations, endowments and sponsorships are vitally important. Political direction influences government funding under a range of policies and taxes. For example, Parks Victoria in Australia provides free access to national parks to encourage visitation and increase physical and mental wellbeing and the state government covers the costs otherwise provided through user fees ("The Premier of Victoria. Archived," 2010). Legislation can also include funding allocations for trails. Legislative frameworks set out opportunities for charging income for protected areas and their tourism products. 'User pay' funding versus 'government provides' is reviewed in Chapter Two. Funding may be limited and unpredictable, varying under different government administrations (Timothy & Boyd, 2015). More often than not, trails are funded through diverse income streams, such as grants, corporate sponsorships, donations and merchandise (ATC, 2012; Forester, 2010; Potomac Appalachian Trail Club, n.d.). Eagles (2008a) outlines a variety of potential partnerships in his review of governance models, each having unique income streams.

1.3.3 Culture of volunteering

The culture of volunteering referred to here is that of community engagement, including in protected area and tourism management. The culture and prevalence of volunteering varies amongst countries and continents and is therefore outside of the trail managers' control from a broader perspective, hence listed under external. Their actual inclusion in a management model is noted under governance and infrastructure maintenance. The focus is on community based organisations and volunteering, which is considered cost effective labour, as well as a mechanism to strengthen relationships with local residents and providing satisfactory volunteer experiences (Timothy & Boyd, 2015). Eagles (2008a) suggests partnerships with not-for-profit (referred to as NGO in this study) organisations. Volunteers are increasingly used as a workforce for the maintenance of trails, just as is the case for other tourism and recreation resources (Ralston & Rhoden, 2005). They are a vital component in the sustainable management of trail organisations and therefore need to be considered in strategic planning processes, according to Ralston and Rhoden. The USA and Australia in particular tend to rely heavily on community partners with volunteer contribution for trail management, as can be seen with the *Appalachian Trail*, whereas European trails tend to be managed by a consortium of public land owners with limited and ad hoc volunteer contribution, as in the case of the *West Highland Way* (Forester, 2010).

1.4 Internal trail management factors

The next section describes the factors internal to trail management, which generally can be influenced and changed by a trail manager for best and most sustainable outcomes. This includes the governance body, additional partnerships, conservation objectives, infrastructure management and tourism operations.

1.4.1 Governance

Governance for protected areas in combination with recreation and tourism has been studied extensively over the last decade as a possible income source for protected areas (Borrini-Feyerabend et al., 2013; Erg et al., 2015; Graham, Amos, & Plumptre, 2003; More, 2005; Worboys, Lockwood, Kothari, Feary, & Pulsford, 2015). Eagles (2008a, 2009) further evaluated and defined governance models specific for tourism in parks. He identified three elements and recommended their investigation: resource ownership, income source and a management body. Out of all the combinations, Eagles identified the eight most common models (Table 1). He then applied ten governance criteria to evaluate performance and identify strength and weaknesses of each governance model. The ten criteria represent the five combined categories: Legitimacy and voice, direction, performance, accountability and fairness. Eagles found that the *public and*

non-profit combination was the highest ranking model, closely followed by the *non-profit* model. Medium ranked models were the *national park*, *parastatal* and *for-profit* models, whereas the *aboriginal* and *community* models scored the lowest. Cost effectiveness can often be achieved through the use of volunteers, which is a key reason for the highest ranking of the *public* and *non-profit* model. Timothy and Boyd (2015) suggest that most trails are owned and or operated by public agencies, making them a likely governance partner under Eagles' model.

This research is seeking to develop a best practice model from the perspective of financial viability and sustainability, therefore performance and its criterion effectiveness and efficiency are of prime interest. As discussed earlier, trails are labour intensive. This means volunteers offer a major cost saving for trail maintenance, making them a likely inclusion in a trail management model.

Table 1: Governance models for protected areas – Eagles (2008a, 2009)

Model	Resource ownership	Income source	Management body
1. National park	Government	Taxes	Government
2. Parastatal	Government	User fees	Government owned corporation
3. Non-profit	Non-profit corporation	Donations	Non-profit corporation
4. Ec lodge	For-profit corporation	User fees	For-profit corporation
5. Public and for-profit	Government	Taxes and user fees	Government and for-profit corporation
6. Public and non-profit	Government	Taxes and user fees	Government and non-profit corporation
7. Aboriginal and government	Aboriginal/private and government	Taxes and user fees	Aboriginal /private and Government
8. Traditional community	Aboriginal/private	Taxes and user fees	Aboriginal/community

Derived from Eagles (2008a, 2009) and Newsome et al. (2013)

If all staff were fully paid the additional management costs would have to be offset by higher income. Governments may consider that the broader trail related benefits, such as the health and economic aspects discussed earlier, outweigh the additional management costs. Trails are considered tourism infrastructure in protected areas, and it would therefore be expected that governance models for tourism in protected areas would also apply to trails. The three elements of conservation management - resource ownership, income source and management body, as well as some of the criteria applied by Eagles (2008b, 2009), inform the comparative analysis of trail management models.

1.4.2 Partnerships

Partnerships are a vital component of governance for tourism or recreation within parks or protected areas, which involves shared risk and shared benefits (De Lacy, Battig, Moore, & Noakes, 2002; Laing, Lee, Moore, Wegner, & Weiler, 2009; Laing et al., 2008). Nelson Mandela, Congress Co-Patron opening speech at the fifth International Union for the Conservation of Nature (IUCN) World Parks Congress, stated his perspective about the importance of partnerships:

We know that the key to a sustainable future for protected areas lies in the development of partnerships. It is only through alliances and partnerships that protected areas can be made relevant to the needs of society. (Bushell, Staiff, & Eagles, 2007, p. 1)

This research specifically looks at trails which are at least partly within protected areas. To achieve the required components of trail management, such as infrastructure, conservation and tourism operations, the long trails included in this research utilise partnerships in addition to those represented on the management body. Partnerships in this research refer to those outside of the management body, which can vary for each trail.

1.4.3 Conservation

The total size of protected areas continues to grow, as worldwide government, public and private organisations acquire new land for their environmental, social and economic values (Newsome et al., 2013). Over 200,000 protected areas in the world, covering around 15% of Earth's surface (Protected Planet, n.d.), are defined by the IUCN in Table 2 (Borrini-Feyerabend et al., 2013).

Trails are often located within, or cross protected areas, such as national parks, state or local reserves and other natural areas, and these are considered park infrastructure (DEC, 2013; Graham et al., 2003; "NPS," n.d.; Timothy & Boyd, 2015). Therefore, trails need to be considered as part of protected area management. Long trails, such as those included in this research, typically traverse several protected and other natural areas, requiring broad stakeholder cooperation (Timothy & Boyd, 2015). Conservation is therefore an underlying assumption without which natural trails would not exist.

Table 2: IUCN protected area management categories

Protected area category and international name	Management objective
Ia - Strict nature reserve	Strictly protected area set aside to conserve biodiversity and, possibly, geological/geomorphological features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values. They serve as indispensable reference areas for scientific research and monitoring.
Ib - Wilderness area	Large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.
II - National park (ecosystem protection; protection of cultural values)	Large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristics of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.
III - Natural monument or feature	Areas set aside to protect a specific natural monument, such as a landform, sea mount, a cave or even a living feature such as an ancient grove. They are generally quite small areas and often have high visitor, historical or cultural value.
IV - Habitat/species management	Areas dedicated to the conservation of particular species or habitat. Many Category IV protected areas need regular, active management interventions to meet their objectives.
V - Protected landscape/seascape	An area where the interaction of people and nature over time has produced a distinct character and significant ecological, biological, cultural and scenic values, and where safeguarding the integrity of this interaction is vital to conserving nature and sustaining other values.
VI - Protected area with sustainable use of natural resources	Protected areas that conserve ecosystems and habitats, together with associated cultural values and traditional natural resource management systems. They are generally large, with most of the area in a natural condition and part under sustainable natural resource management. Low-level non-industrial use of natural resources compatible with nature conservation is seen as one of the main aims of this type of protected area.

("IUCN," n.d.)

1.4.4 Infrastructure

Long distance trails are linear, often with substantial additional infrastructure, such as bridges and overnight shelters. Shorter trails may be more able to avoid obstacles such as large river crossings and do not require overnight accommodation. Trails and their infrastructure require ongoing maintenance, management and upgrade, which, along many kilometres, are time

consuming and difficult to access in remote locations (Timothy & Boyd, 2015). Trail infrastructure management is a core operation for all trails. All other operations are optional and dependent on the trails significance and purpose. Therefore, one of the main costs related to trails is their maintenance, as reflected in annual reports of trail managers, and also the funding arrangements under the USA *National Trails System Act 1968* and the Western Australian Department of Environment and Conservation (ATC, 2012; DEC, 2013; "National Trails System Act," 2009; Potomac Appalachian Trail Club, n.d.).

To reduce costs many trails are being managed and maintained through volunteer labour, particularly in the USA, Australia and also in Bhutan (Downs, 2000; Namgyel, 2011; Timothy & Boyd, 2015). This is often accomplished with an NGO as a partner on the management body, such as the Munda Biddi Trail Foundation, Arizona Trails Association and the Appalachian Conservancy. In addition to volunteer management, these organisations hold other responsibilities for the trail, such as marketing and promotion, community engagement and seeking additional funding (Arizona Trail Association, n.d.; ATC, n.d.; Munda Biddi Trail, n.d.). The Potomac Club, one of the sub-clubs of the *Appalachian Trail*, and included in this research, has financial sustainability as the prime aim in its annual plan (Potomac Appalachian Trail Club, n.d.). The second partner is often a government agency, which holds final responsibility for the infrastructure and deals with major maintenance issues, provides financial support to the community partner and is actively involved in the management of the trail, primarily fulfilling visitor risk and legislative responsibilities. In this research the culture of volunteering was covered under external trail management aspects, but it is also a key internal operations component, depending on the management model. It is therefore worthwhile to review the culture of volunteering from a national and broader perspective as an external influence within theoretical frameworks, but volunteering will be considered as both internal and external from the trail managers' perspective in the findings and discussion chapters.

1.4.5 Tourism operations

Timothy and Boyd (2015, p. 2) suggest that "one of the most pervasive types of tourism and recreation attractions today is trails, pathways and scenic routes and corridors." Long trails in particular see higher number of tourists than compared to local trails, who travel to location and stay overnight, sometimes from another country or continent (Timothy & Boyd, 2015). Tourism in protected areas can provide income opportunities for local communities, be beneficial to conservation and gain support for parks, according to Bushell and McCool (2007). They further suggest that "tourism in and around protected areas should be a tool for conservation: building support and raising awareness of the many important ecological, cultural, sacred, spiritual,

aesthetic, recreational and economic values of protected areas” (Bushell & McCool, 2007, p. 12). Page (2009) suggests that managing an attraction as a product has tangible economic impacts for the local community and tourism economy. Trails represent a visitor attraction that offers products within a destination. Product and destination management are commonly delivered by the trail management body. Tourism operations is therefore categorised as an internal factor. To better understand the complexity of a product it can be considered as having three layers (Page, 2009). Relating trails to Page’s (2009) layers, the first layer is the core product, which is the trail with its entire infrastructure. The tangible products are the second layer, such as maps, publications and merchandise. The third layer consists of additional services, including visitor information and advice for tourism operators.

Tourism operations can be an important driver for trails, potentially providing income for their maintenance and management. Tourism operations, such as product and destination development, effective marketing and promotion, and coordination of visitor services, appear to be lacking with the volunteer and community based recreation models. Understanding and embedding the concepts of tourism as a conservation, community engagement and economic driver, is therefore vital for any sustainable trail model. Tourism can provide an income source for trails if harnessed effectively. From a trail user perspective the main difference between recreation and tourism is the distance travelled to the trail, and whether this is considered leisure time or vacation, as defined earlier. Recreation is therefore a similar driver to tourism for trails, though the objectives are based around individual and community benefits, which are largely achieved through exercise, spending time with family and friends and volunteering (DSR, 2016; Torkildsen, 2012). Recreation is therefore included under the concept of tourism in this thesis.

In summary, this section has provided an overview of internal trail management components, which make up some of the key comparison criteria. The governance and partnership criterion outlines ‘how’ a trail is managed, and infrastructure and tourism describe ‘what’ is managed. In particular, infrastructure represents the core operations with the highest expense, which can be reduced through the use of volunteers. Tourism operations can represent an unharnessed or insufficiently exploited income source. These two criteria will be key in determining financial sustainability as income and expenditure. Conservation is considered a base assumption for most trails analysed in this research, and it also represents the broader framework within a protected area setting.

1.5 Research problem statement

As a pristine environment is essential for nature-based tourism, such as trails, operators have come to understand that protection of the environment is essential for the survival of their business. Newsome et al. (2013, p. xix) foster the positive link between environment and tourism, suggesting that “...it is only through a greater understanding of the environment that tourism in natural areas will evolve to a place where it can be truly synergistic”. Protection of the natural environment is of particular importance in Australia as a large proportion of nature based tourism is in protected areas (Fennell & Dowling, 2003; Laing et al., 2008), making the managers of these areas the biggest nature-based tourism operators by default.

Sustainable tourism management for protected areas is a relatively new area of research and partnerships have been suggested to manage its complex and fragile nature (De Lacy et al., 2002; Laing et al., 2008; Seekamp, Cervený, & McCreary, 2011; Selin, 1999; Wegner, Lee, & Weiler, 2010; Yang, 2011). The same authors propose that protected area management and tourism partnerships may be between government agencies, or through wider collaboration with public, NGOs and community stakeholders. Trails represent a tourism product within a protected area, which are often managed in partnerships through their governance structures to manage its many aspects, such as conservation of the corridor, infrastructure maintenance and tourism operations. Collaboration between stakeholders strongly influences the quality of the product, the satisfaction of visitors and the protection of the natural resource (Laing et al., 2008; Wegner et al., 2010). Efficiency grounds, combined with government cutbacks were in part responsible for the push to partnerships, but knowledge sharing, coordination, optimising innovation, shared responsibilities and opportunities were also considered key drivers (Laing et al., 2008). Many trails are managed in partnership with an NGO which provides volunteers to undertake trail maintenance, in part to reduce costs. Partnerships are therefore a vital component of trail management which provide opportunities to achieve financial sustainability. The literature review identified a few examples of partnership reviews that incorporated trails, such as Seekamp et al. (2011), and Selin (1999) and Hill (2012) who specifically addressed trail maintenance partnerships.

Some generic literature about tourism, partnerships or protected areas includes trails as case studies or examples. The report by Moore et al. (2009) *Tourism – Protected Area Partnerships in Australia* showcased the trail partnerships of the *Heysen Trail*, *Great Ocean Walk*, *Overland Track* (huts) and the *Bibbulmun Track*. Overall the description and analysis of each was brief and mostly not referenced, indicating difficulty of access to data that is refereed, as was found during

the literature review for this thesis. While some trails were reviewed and discussed, these were largely case based and did not provide an overview or comparison between different trail types or models.

A search under 'trails' & 'governance' or 'management' revealed only a couple of trail specific reports, one about the *Appalachian Trail* (Downs, 2000) and the other about the *Nabji Trail* in Bhutan (Namgyel, 2011). A report investigating trail organisation in the USA was sourced through networking with the National Parks Service (Brinkley, 2013). This was the only literature identified that investigated trail models, in particular by analysing the makeup of the NGO partner. Brinkley's research was in preparation to developing a model for a new trail association. A key criterion for case study comparisons was funding and other income opportunities. No other specific academic literature, reviews, evaluation or information about trail models was identified during the literature review, and none that addressed trail business models specifically. There was also limited academic literature about trail management partnerships, a common way of managing trails. Examples of this are an older analysis by Downs (2000) into the legal aspects of the USA trail management approach through partnerships, and the *Malt Whisky Trail* (automobile drive trail) by Martin and McBoyle (2006). Most information about management structures was found on individual trail websites, from which generic information was sourced (ATC, n.d.; "Bibbulmun Track," n.d.; DOC, n.d.-a, n.d.-b; Munda Biddi Trail, n.d.; Pacific Crest Trail Association, n.d.; Unknown, n.d.).

The literature review identified research into trail specific environmental impacts, which was therefore excluded from this research. An example is Pickering and Hill (2009) and Pickering, Hill, Newsome and Leung (2010), who addressed the impacts of land based trails, particularly those which were poorly designed and maintained, such as soil erosion, damage to vegetation, wildlife disturbance, spread of weeds and soil pathogens and pollution. Inadequate or insufficient trails can lead to unauthorised and unsanctioned trails, which are likely to have a greater impact on the environment due to the lack of consideration for environmentally or culturally sensitive areas (Pickering, Castley, et al., 2010). Poorly maintained trails have a reduced visual appeal and experience level, and user safety issues (Pickering & Hill, 2009).

Whilst research has been conducted about trail construction and design techniques (Davis, 2012b; Federal Highway Administration, 2012; IMBA, 2004; Webber, 2007), economic benefits (Beeton, 2009; Briedenhann & Wickens, 2004; Bruce, 2009; Faulks, Ritchie, Brown, & Beeton, 2008; Faulks et al., 2007; Spencer, 2010), social impacts (Eastin, n.d.; Godbey & Mowen, 2010; Goldenberg et al., 2008; Moulton, 2009; Scottish Natural Heritage, 2010; Timothy & Boyd, 2015;

Walker, 1996), and volunteering (Forester, 2009; Lockstone-Binney, Holmes, Smith, & Baum, 2010; McDougle, Greenspan, & Handy, 2011; Ralston & Rhoden, 2005) there are identifiable gaps in regards to trail business management. This study identified the lack of business models for trails and thus sought to establish a sustainable trail business model. In the absence of trail specific models, broader management models for tourism in protected areas were identified, discussed and applied.

With declining government budgets around the world, funding for parks and trails are often the first to be cut (A. Hill, 2012; Shea, 2012; Timothy & Boyd, 2015). Regional or national trails can provide social, economic and conservation benefits through tourism (Bruce, 2009; Bushell et al., 2007). To achieve the benefits from trails into the future, managing trails to be economically, socially and environmentally sustainable is vital, particularly in view of ever reducing resource availability (South Australian Trails Coordination Committee, n.d.). Financial pressures for trail management and maintenance were a prime motivator for this research.

Limited marketing and destination management results in primarily local recreational users, which leads to reduced economic benefits. Currently many trails are managed as recreational trails, without understanding the benefits of managing a tourism product. A recreational trail model, as a local trail under the trail type definitions, seeks to satisfy the local needs, rather than the tourist (South Australian Trails Coordination Committee, n.d.). Therefore larger trails, such as the *Appalachian Trail* and *Bibbulmun Track*, have limited marketing and promotion, apart from what is available on their websites. In addition, limited responsibility is taken for the tourism destination (ATC, n.d.; "Bibbulmun Track," n.d.). Marketing and promotion can increase user numbers, which can increase financial benefits to the trail and its destination. Improved destination coordination improves the user experience and expands regional development.

Eagles (2009) states that there is a causal association between quality of governance, quality of conservation and a tourism experience. A business model approach focuses, in a hierarchy, on financial, operational and strategic categories (Morris, Schindehutte, & Allen, 2005). Having a business model is considered vital for successful and sustainable business management (Lis, 2008; Morris et al., 2005). A model allows assessment against a framework, comparison against other models, improvement, innovation and copying (Baden-Fuller & Morgan, 2010; Plummer, Kulczycki, & Stacey, 2006). Models are used to address lack of knowledge and predict a particular outcome (Baden-Fuller & Morgan, 2010). A business model is a concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture, and economics are assessed to create sustainable competitive advantage in defined markets (Morris

et al., 2005). Without a business management model trails will not benefit from these advantages.

By heightening awareness and creating dialog, this research contributes to a better understanding of the way trails are being managed, and therefore improves their likelihood of sustainability. This research provides a starting point for the literature gap about trail management business models. Past thinking has addressed issues of trail sustainability in regards to its physical infrastructure, but not its overall management. By exploring best practice case studies, key determinants of sustainable trail business models were identified.

1.6 Research purpose

Research can create understanding and generate knowledge about various aspects of business, such as organisational structure and varying aspects of effectiveness (Allen et al., 2014). According to Allen et al. (2014) some business research specifically aims at solving problems within a specific organisation, whereas others, including this study, generate knowledge and understanding of phenomena and problems in various settings. They further note that knowledge of research can help managers to identify and solve problems.

The purpose of this research was to use qualitative research methods with a multiple case study approach to build a cohesive and sustainable business model for trail management, preparing for potential funding reductions. This research sought, identified, analysed and described current best practice trail business management models from around the world, ten trail models across seven countries and five continents. Funding was considered a prime motivating factor for similar research of trail management models undertaken in the USA (Brinkley, 2013). This information can be used to assist trail managers in developing financially, environmentally, socially and culturally sustainable trails.

Specifically, the aim of this study was to examine long trail management business models from the perspective of a tourism product within a natural protected area. Any trail business model therefore contained aspects of conservation, tourism product and destination management, tourism business operations, infrastructure management (trail and associated facilities) and community involvement. The findings were then applied to develop a trail management model with a focus on financial sustainability that can be used by managers to improve their trail.

1.7 Research question

This research investigated, analysed and described the little understood area of trail business management models. Specifically, it sought to identify components relevant to the management

of long trails in protected areas, including conservation, infrastructure, tourism and community engagement. Using a systemic view this research also explored the relationships between each component and how these were delivered as part of a comprehensive model. Emerging themes and structures guided the development of a financially sustainable model.

Key research question:

How does the management of long distance trails address the challenges of financial sustainability?

Secondary research questions:

1. What models are used to achieve this?
2. Who are the partners?
3. What are key elements of the model?
4. What are the particular complexities of long trails?
5. What are the key factors in a successful sustainable trail management model?

To define ‘financial sustainability’ for this research the Convention on Biological Diversity (CBD, n.d., para. 6) suggests that: “Financial sustainability is not only about the amount of money, but also about how effectively money is spent, how well benefits are provided to local stakeholders, and other factors.” They specifically define financial sustainability for protected areas, for which tourism is considered an income source. Therefore it seems reasonable to extend their definition to tourism within protected areas:

The ability to secure stable and sufficient long-term financial resources, and to allocate them in a timely manner and appropriate form, to cover the full costs of protected areas (direct and indirect) and to ensure that PAs [protected areas] are managed effectively and efficiently. (CBD, n.d., para. 7)

1.8 Justification/significance

A study of trail business management models is important for several reasons. First, it adds to scholarly research by addressing a gap in trail management models. Further, it addresses the specific gap of financially sustainable trail management from a tourism perspective. The only comprehensive publication about trails, the book *Tourism and Trails* by Timothy and Boyd (2015) was published during the final stages of this thesis. According to the authors “it would be hard to identify a region of the world which does not boast of a trail or route that is sold as part of a wider tourism or recreation experience” (p. 1). Despite this, they noted the rather “disparate

body of work by scholars on trails and routes” (p. 1), which led to the writing of their book, and supports the lack of literature identified in this research. Timothy and Boyd (2015) only addressed trail management broadly in their book, suggesting that purpose built trails “fizzle out” mainly due to the lack of cooperation from business, or locations, to support the trail within a destination model.

Secondly, this study seeks to improve practice of trail managers’ from governments, community groups and businesses, by providing models of operation that support long-term sustainability of their trail. This benefits the trail user and trail related businesses, as well as the environment. To make best use of declining government funding for trail maintenance and management it is vital to have a financially sustainable model of management that is complementary for the trail. Therefore this research sought to investigate existing trail management models and extend the limited literature available on this subject. The trail management model developed through this research is likely to be useful for the management of other types of trails, such as shorter routes, because this study addresses some of the most difficult and complex trails to manage. This approach is supported by Baden-Fuller and Morgan (2010), who suggested that investigating components of models may be relevant to similarly classed groups.

Thirdly, it aids policy by providing sustainable funding models for current and future trails to achieve social, conservation and economic outcomes, including regional development. To be able to provide, and even extend, recreational and tourism trails financially, environmentally and culturally sustainable management practices are required. Trail managers and policy makers can make better decisions if these are based on research and clearly described business models. Decisions can determine trail management models to have a tourism purpose, which could provide economic opportunities through destination and product development. This type of trail model would essentially be a business with clearly defined business and economic goals. This could be combined with a trail volunteer model, such as that pioneered in the USA, where a high level of volunteer participation could be implemented to counteract expensive trail development and maintenance costs (Appalachian Trail Project Office, 1987). Volunteering is closely linked to funding, as it is considered a crucial component for financially sustainable trail management (Timothy & Boyd, 2015).

1.9 Background to researcher

The researcher is employed by the Western Australian Department of Parks and Wildlife (DPaW), as the Trails Coordinator. In that capacity she manages the department’s three long trails, the *Munda Biddi Trail*, *Bibbulmun Track* and *Cape to Cape Track*. All three trails are

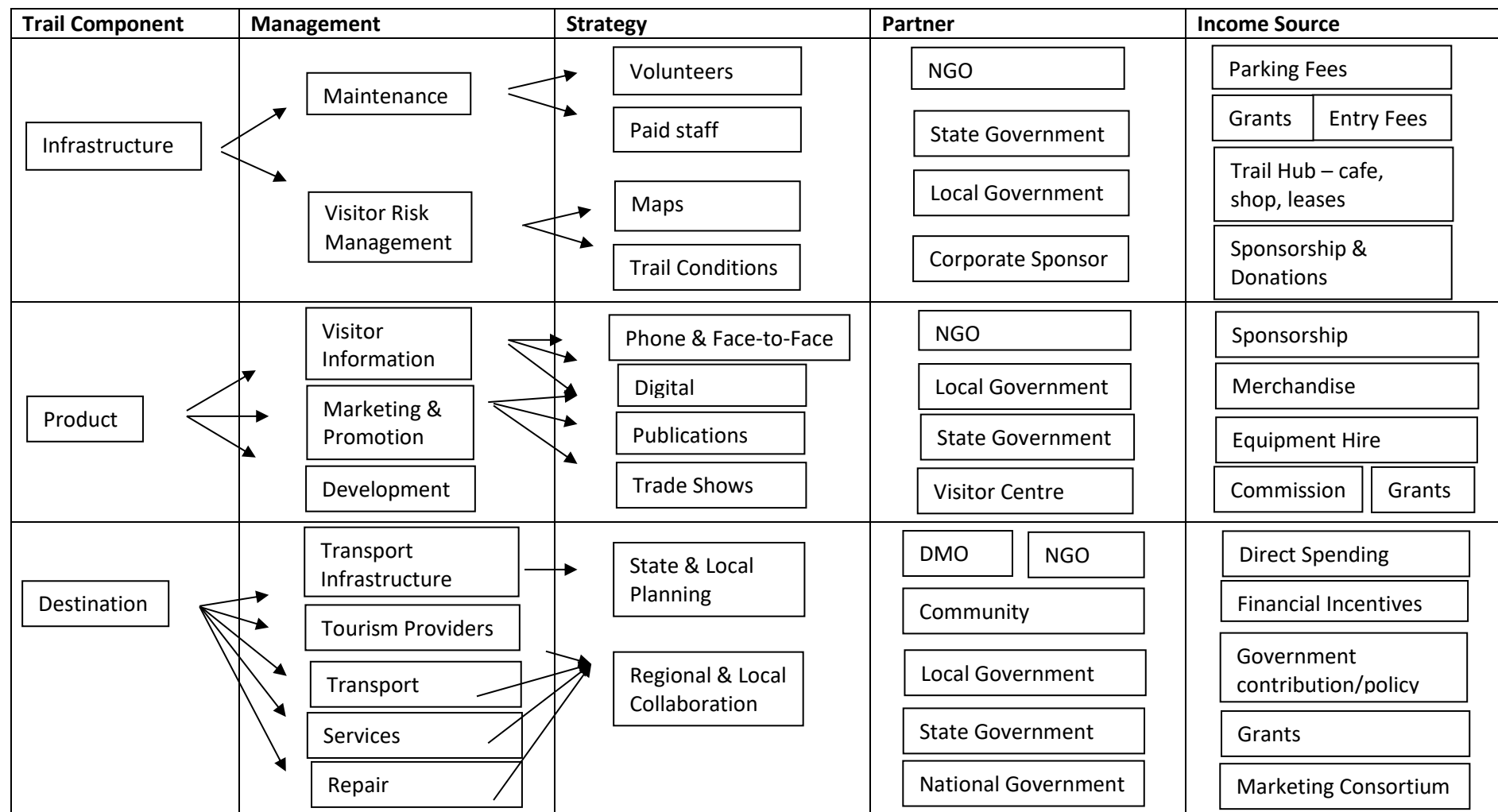
managed in partnership with an NGO and the researcher sits on two of their boards as the departmental representative, and provides strategic and policy input at the third. In a previous role with the Department the researcher was the project manager for the development and construction of the southern two-thirds of the *Munda Biddi Trail*, more than 600 kilometres in length. This project also included the Community Development Program, which was established and delivered by the partnering Munda Biddi Trail Foundation. This program saw the development of cycle tourism readiness along the new trail, including trail tourism infrastructure and community engagement. The researcher contributed to this through her role on the program advisory group. The researcher has also been a committee member of the World Trails Network since 2015, which presents the World Trails Conference, amongst other projects.

1.10 Initial conceptual framework

The initial conceptual framework was developed as part of the proposal for this study. It shows early thoughts of factors influencing trail management from a tourism perspective, such as the infrastructure, product and destination. The management column in Figure 1 identifies the areas of operation which are undertaken through the strategy items by the relevant partners. Potential income sources are identified in the last column.

This framework varies from the later version substantially, partially because the components of trail management were initially unknown. Research question three sought to investigate the key elements of the participating trail models, which were later identified as factors influencing trail management: political, funding, culture of volunteering, governance, partnerships, conservation, infrastructure and tourism operations. Essentially the initial trail components were broadened to include factors external to the trail and outside of the trail managers' control, but still influencing the model. Conservation was added as an underlying internal factor. Governance was identified as a standalone item later, whereas it was seen as representing the overall framework in this earlier version.

Figure 1: Initial conceptual framework



1.11 Thesis outline

This thesis is divided into seven chapters. The Introduction, chapter one, provided an overview of tourism and trails, as well as outlined each of the three external aspects of trail management; political, funding and culture of volunteering, and the five internal aspects; governance, partnerships, conservation, infrastructure and tourism operations. The research problem and purpose outlined a need for this research into trail business management models. This is supported in Chapter Two, which reviews existing literature, as well as identifies gaps. The qualitative research methodology is described in Chapter Three. The trail management components allow a comparative analysis of ten international trails, which are presented in Chapter Four Study Sites. The findings are presented in Chapter Five, which are discussed and analysed against the literature review in Chapter Six. The final Chapter Seven provides the conclusion and recommendations.

1.12 Chapter conclusion

This chapter introduced long trails within the framework of a tourism product in a protected area. The combination of these two frameworks required consideration of a broad range of internal and external factors, either as contributors or those within the control of the trail managers. These were considered to be trail management components and consisted of political, funding, volunteering, governance, partnerships, conservation, infrastructure and tourism. These components were used as comparison criterion in this qualitative multiple case study research. The purpose of this research was to fill a literature gap for trail business management models, and to provide a financially sustainable model for trail managers to improve financial, environmental and social sustainability of their trails.

Limited trail related literature about business models and management structures was identified in the literature review, which reflects the infancy of the concept of tourism trails. Therefore related areas such as business management models, tourism business, product development, destination management, partnerships, protected area management, volunteering and infrastructure management were considered in regards to trail business models.

Chapter Two - Literature review

This chapter provides an overview of the identified literature about trails and their management. The information is divided into the external and internal aspects of management from the perspective of trail managers. The external management aspects; political, funding and the culture of volunteering, identify and seek to explain the broader context of trails, but are outside of the trail managers' control. Literature identified under external aspects includes topics such as judiciary systems and legal frameworks, government tax and funding models, as well as volunteer engagement. The internal management aspects are within the trail managers' control and consist of governance, partnerships, conservation, infrastructure and tourism operations. The IUCN's (Borrini-Feyerabend et al., 2013) and Eagles' (2008a, 2009) governance models are discussed with special reference to their application for trails within a framework of protected area tourism. Partnerships represent a common model of protected area, tourism and trail management, and the reviewed literature identifies several types of partnerships with a variety of roles and responsibilities. The literature about conservation and trails includes visitor and trail environmental impact studies, and the importance of trails for environmental protection. A wide range of literature was identified about trail infrastructure, development and design principles. Natural area tourism literature is reviewed with a particular focus of trail specific components, such as visitor information and experiences, and economic impacts. Due to the limited availability of trail related literature, specifically for business models, governance and tourism management, this literature review includes related materials, as well as some older trail specific literature.

2.1 External trail management factors

This section provides a review of the literature on external aspects of trail management. These are outside the trail managers' direct control, but are likely to influence trail management and the sustainability model. Without a positive and supportive political setting, availability of funding and a culture of volunteering, most long trails would struggle to survive.

2.1.1. Political

Trails reliant on legislative provisions or a government funding base require supportive political environments. Lockwood (2010) suggests that democracy, human rights and free elections are one key criterion. The other is the rule of law, including an independent judiciary system, which typically supports the protected area conservation status and its management through legislation (Lockwood, 2010). Differences are likely amongst countries, and between developed

and developing societies, where conservation may be driven to support recreation, tourism or livelihood (Borrini-Feyerabend et al., 2013). History, culture and legal issues are factors identified to influence governance by Graham et al. (2003) and Borrini-Feyerabend (2013).

More (2005) argues that privatisation is a consequence of a libertarian political philosophy, which he called neo-conservatism. In other words neo-conservatism assumes that government programs and services hinder the efficiently operating free market. This is also supported by other authors, such as Lockwood (2010), who extend this argument by suggesting that this has also led to a more business-like approach. In More's view "the public sector exists to accomplish things that the market cannot", delivering non-profitable services like conservation and providing equal access to all people, whether wealthy or poor (More, 2005, p. 18). Newsome et al. (2013, p. 244) suggest that "...governments are considered responsible for helping to meet the needs of society at large..." and therefore are required for the protection of natural areas. More (2005, p. 18) sees the common practice of charging user fees and the creation of friends groups as "a series of small changes that may eventually lead to a major change", referring a shift towards total privatisation. Friends groups are a common trail management partner, especially in the USA and Australia. More's (2005) argument largely relates to conservation and access to parks in general, so it could be argued that a specific trail of national importance is a tourism product, and therefore a move towards privatisation could be acceptable.

Considering the political and cultural environment in the assessment of the best governance model, questions of wealth versus paying taxes was discussed in the literature. An example is the national park model, or user pay systems in countries where the use of taxes for conservation is limited (More, 2005). According to Eagles (2009, p. 245) "this indicates that financial efficiency may be a pivotal criteria, one that underlies all the others". He went as far as to say that "unless one has financial efficiency, the fulfilment of the other criteria is problematic". The use of volunteers and user fees were considered by the Convention on Biological Diversity to be strategies towards financial sustainability for protected areas through tourism (CBD, n.d.). Financial income models based on broader political environments, resulting in efficiency and sustainability, were also a key focus for assessing trail management in this research.

2.1.1.1 Trail legislation

To develop and protect trails, some countries have supportive legislation, reflective of the country's specific circumstances. For example Timothy and Boyd (2015) and Walker (1996) describe public access to privately owned land as 'right to roam'. In the United Kingdom this

resulted in political action and legislation, such as the *Countryside and Rights of Way Act 2000*. The British Ramblers have been securing access to land and promoting walking for over 75 years ("Scotland Ramblers ", n.d.). In Scotland they played a leading role in the passage of the *Land Reform (Scotland) Act 2003*. This entitles responsible access to most land for the purposes of recreation and associated activities. The rights and responsibilities inherent on both users and land managers are further interpreted in the Scottish Outdoor Access Code (2005).

In recent years the purpose of trails in Scotland has been extended beyond access rights to incorporate a strong tourism angle. Scottish Natural Heritage (2010) states that routes provide greater economic benefits through tourism with significant impact to local communities. Other benefits include contribution to a healthier and more physically active population and lifestyle, a stronger connection to the natural world, and helping to decrease carbon emissions through offering an alternative to motorised transport for short journeys (Scottish Natural Heritage, 2010).

A different example of a political system is the USA *National Trails System Act 1968*, which Downs (2000) reviewed as a partnership model approach for natural resource management. He describes it as a federal partnership between an NGO and government, involving federal responsibility and sharing of congressionally appropriated funding. According to Downs:

The system is based on mutual understanding of overarching goals and objectives, developed through coordinated local planning and implementation under cooperative agreements, rather than through regulation. The result has been meaningful progress in achieving statutory objectives through effective grass-roots involvement in program management, with relatively little friction or discontent on the part of the public or interest groups. (Downs, 2000, n. p.)

The *Appalachian Trail* was the first to be designated as a National Scenic Trail and encouraged the partnerships that became the essence of a cooperative trail management system (Downs, 2000). The *National Trails System Act 2009* identifies several federal government agencies with responsibilities for the National Scenic Trails. These agencies are either under the responsibility of the Department of Interior, such as the Bureau of Land Management (BLM), National Park Service (NPS) and Fish and Wildlife Service; or Agriculture, such as the Forest Service (FS). There are other federal departments assisting under the *Act*, including the Department of the Army and its Army Corps of Engineers, and the Department of Transportation with its Federal Highway Administration.

According to the *National Trails Systems Act 2009*, Congress designates a national trail its administration by assigning it to one department (either Agriculture or Interior) and this is delegated to the appropriate agency, generally the agency which manages the majority of the lands traversed by the trail. The delegated agency is considered the trail administrator, and other agencies that hold sections of land crossed by the trail are considered trail managers. Each agency has its own policies and rules related to trails and their management planning. Some are generic, such as the Forest Service Planning Rule (Sherman, 2012) and others, such as the BLM, have trail specific directives. Trails included under the *National Trails System Act 2009* receive funding through their administering agency. In addition there are several funding opportunities specific to trails, such as the Recreational Trails Program funds administered by the Federal Highway Administration from federal fuel tax ("Recreational Trails Program," n.d.).

Other trail specific legislation identified includes the concept of 'Greenways' or 'Green Corridors', which is to develop trails or urban pathways close to where people live, resulting in high levels of use (Timothy & Boyd, 2015). Greenways focus on health and transport issues and they are supported politically to achieve these goals. In some countries and states they are legally defined. In Australia, the Australian Greenways Declaration was written at the National Trails Conference in 2011 to ensure federal government support (Trails Australia, 2011). South Australia is the only Australian state with trail specific legislation, the *Recreational Greenways Act 2000*. Greenways are a key concept internationally, and American Trails has a mission to provide access to greenways and trails within 15 minutes of every American's home (American Trails, n.d.). By definition they are primarily urban space connectors, linking parks, nature reserves and sites of interest, which often follow natural land and water corridors such as rivers (Chon, 2004). Greenways offer recreational and tourism opportunities, alternative transport routes and reduced environmental impacts through less traffic. Useful and broad research into greenways includes that by Chon (2004), Hays (2009), Kidambi (2011) and Ryan, Fabos and Allan (2006).

2.1.2 Funding

As government contributions are declining, Bushell, Staiff and Eagles (2007) suggest that the tourism model is often considered a replacement income source for protected areas and visitor infrastructure. Park visitor services carry considerable costs and liabilities beyond conservation (Bushell et al., 2007). The additional income through tourism therefore must not only support conservation, but also pay for the additional tourism infrastructure and services. Bushell et al. (2007) note that while protected areas can lead to significant economic value for tourism, this is not their main purpose of existence. Rather, tourism is to support the primary role of

protected areas and conservation. Buckley (2010) describes this in terms of a three-way link between tourism, conservation and local communities to support conservation through a tourism product or service. He acknowledges, though, that fees charged do not cover the cost of providing visitor infrastructure in most developed countries (Buckley, 2010).

Bushell et al. (2007) comment on the introduction of park tourism commercial development in Australia, whilst such is being reduced in the USA. As the impact on park values from these commercial developments was considered too high in the USA and roads, food and lodging places are now being removed. In some countries the use of taxes for protected areas and their infrastructure management are limited and user pay income models are required, such as those in South Africa (Newsome et al., 2013). This is perhaps what led to the more successful commercial developments in South Africa where it has contributed much needed support (Bushell & McCool, 2007).

Graham et al. (2003) discuss the Canadian government funding reductions for protected areas, including their infrastructure, such as trails, and the push for some functions to be undertaken by the voluntary sector at a reduced cost. A libertarian political philosophy is seen by More (2005) as the cause towards privatisation, resulting in friends groups assisting with the management of protected areas and trails. This is often accompanied by a push towards user fees and philanthropy, as also discussed by Eagles (2008a). In combination with political and cultural environments, the type of governance and funding model will impact on visitors to protected areas. A user pay system, according to More (2005), is likely to discourage access to parks for poorer people, whereas a tax based system provides equal access to all, whether tax payers want to visit parks or not.

A nation's user pay versus government provide funding environment will strongly influence income options for trails. Government provided income for trails can be directly through funding and grants, or indirectly through a supportive tax system that encourages philanthropy or business engagement. User pay options include entry charges, concessions, and tourism operations, such as tours, services and rental fees. Timothy and Boyd (2015, p. 154) describe "four broad types of trail-related income for trail managers and the regions that host them: grants, donations, user fees and ancillary visitor spending". According to them funding can be difficult to access and it is likely to vary with changes in government. Therefore focusing on financial independence is critical, especially during times of limited government budgets (Timothy & Boyd, 2015).

2.1.3 Volunteering

Trail management often relies heavily on volunteer contributions, who provide free labour for extensive but often basic trail maintenance. In some countries where there is an active volunteer culture, trail management organisations utilise this resource. Lockwood (2010) and Eagles (2008a) discuss a government and NGO partnership model, which relies heavily on volunteer contribution for trail management, as seen particularly in the USA. According to Newsome et al. (2013) volunteering is not as prominent in England and Scotland, so trail management there tends to rely on paid staff.

As volunteers often play a key role in trail management and maintenance, it is not surprising to see research into volunteer participation. As an example Ralston and Rhoden (2005) investigated motivation and expectations of volunteers of the National Cycle Network in the United Kingdom through an explorative case study. They suggest that knowing volunteers' motivations and expectations, was a first step in planning for their management. Motivational factors were a concern for the environment and sustainable transport, love of cycling and affiliation with an organisation's values (Ralston & Rhoden, 2005). McDougale, Greenspan and Handy (2011) found that young adults, who engage in pro-environmental behaviours, and who volunteer for other types of non-profit organisations, are more likely to volunteer for environmental non-profit organisations. Lockstone, Holmes, Smith and Baum (2010) reviewed the literature for volunteering in leisure areas in general within the context of social science theory, including psychological motivation and economic factors. Trail management can include extensive use of volunteers, and therefore having a good understanding of their motivators and benefits will assist with their management and utilisation.

2.2 Internal trail management factors

Trails investigated in this research are a tourism product within a natural protected area, with varying degrees of protection. This section provides an overview of the literature on factors directly relating to trail management within a protected area setting. The first section discusses governance based on the IUCN model (Borrini-Feyerabend et al., 2013), which is further refined by Eagles' (2008a, 2009) model for tourism and recreation in parks. Partnerships are a common component of governance models and trail management. Minimal impact and environmental protection is deliberated in the conservation section. Trail infrastructure management and tourism operations are aspects of trail management administered by the management body.

2.2.1 Governance

The Fifth World Parks Congress in Durban, in 2003, identified governance as 'central to the conservation of protected areas' and for the first time dedicated an entire stream of events to

the topic (Borrini-Feyerabend et al., 2013). According to Newsome et al. (2013) governance strongly influences effectiveness of protected area management. Lockwood (2010) suggests that the concept of governance is now considered to be well established and understood, but this is not the case for the new collaborative approaches with diverse ownership and responsibility arrangements. A review of global protected area governance between 1992 and 2002 by Dearden and Bennett (2005) identified that initially government agencies were responsible and volunteers and community groups were uninvolved in one third of the countries surveyed. By the end of the survey period protected area governance had shifted towards high level of public involvement with organisations contributing towards, or partnering with government in the management of parks. Previous government directed models, such as the traditional national parks model in USA, Canada and Australia, were replaced by a diverse form of partnership arrangements, delegated authority and community management (Eagles, 2009; Graham et al., 2003; Lockwood, 2010; Newsome et al., 2013).

This opened up new possibilities for partnerships in the governance of protected areas. Graham et al. (2003) stated that there are no right or best options of governance types, but that context matters. Factors such as history, culture, legal issues and capacity determine the most appropriate governance type for a given set of circumstances (Graham et al., 2003). Borrini-Feyerabend et al. (2013, p. xii) suggest that, in addition to factors suggested by Graham et al., “the specific ecological, historical and political contexts, and the variety of worldviews, values, knowledge and skills, policies and practices that contribute to conservation, should be reflected in different governance regimes in different regions and countries, and even among different protected areas in a same country”. The IUCN recognises four governance types, which are described in Table 3: the traditional government, the more recent shared, as well as private and the community managed versions.

Lockwood (2010) recommends that an in-depth understanding of these new forms of conservation governance, as well as a definition of ‘good’ governance, is required for the future effectiveness and acceptability of protected areas. Lockwood (2010, p. 755) suggests that “good governance is considered a prerequisite for effective management, and is fundamental to securing the political and community support essential to the development, indeed the survival, of the global protected area system”.

Table 3: IUCN governance types

Governance type	Sub-types
Type A – Governance by government	<ul style="list-style-type: none"> • Federal or national ministry or agency in charge • Sub-national ministry or agency in charge (e.g., at regional, provincial, municipal level) • Government delegated management (e.g. to an NGO)
Type B - Shared governance	<ul style="list-style-type: none"> • Transboundary governance (formal arrangements between one or more sovereign states or territories) • Collaborative governance (through various ways in which diverse actors and institutions work together) • Joint governance (pluralist board or other multi-party governing body)
Type C - Private governance	<ul style="list-style-type: none"> • Conservation areas established and run by: <ul style="list-style-type: none"> ○ Individual landowners ○ Non-profit organisations (e.g., NGOs, universities) ○ For-profit organisations (e.g., corporate landowners)
Type D – Governance by indigenous peoples and local communities	<ul style="list-style-type: none"> • Indigenous peoples' conserved territories and areas – established and run by indigenous peoples • Community conserved areas and territories – established and run by local communities

(Borrini-Feyerabend et al., 2013, p. 29)

From a much smaller perspective of individual organisational governance, the still relatively new concept of social enterprise for NGOs may further support Eagles' (2009) and More's (2005) argument for preferred governance models, as NGOs seek to act in a business-like manner and engage in for-profit activities. This is discussed by the Benevolent Society (2013) which suggests that NGOs may adopt social enterprises for financial diversity and self-sufficiency, but also to fill a market gap that is unlikely to be taken up by a commercial company due to staff expenses versus volunteer labour. This can be useful for trails that may get some start-up funding, but are then required to increase financial independence. An example of business-like operations is the *Kabaka Heritage Trail* in Uganda, discussed by Ahebwa, Aporu and Nyakaana (2016), where business-like operations support the trail and people's livelihoods. These include tour guiding, selling of cultural merchandise and food, and providing entertainment. Business operations of other trails may further extend this to include equipment hire, tours, and events for schools and corporate groups. According to the Benevolent Society (2013) a social enterprise needs to be run like a commercial business to be viable and successful. In Australia, and perhaps also in other parts of the world, a strong interest in the concept of social enterprise has emerged.

2.2.1.1 Eagles' governance model

Eagles (2008a) investigated governance models for the combination of parks, recreation and tourism. He discovered that there are variety of governance models employed in this setting. Unlike earlier research, such as Graham (2003), Eagles (2008a) recommends investigating governance by looking separately at three functional aspects: ownership of the land and associated resource, the source of the income and the type of management body. When applied, this resulted in many variations of governance combinations, as further discussed below.

In addition to the three functional aspects of governance, Eagles (2008a) states is necessary to understand the purpose of the enterprise of a protected area. The two intertwined goals are the conservation of the natural and cultural resource, and the provision for education and recreation services. They are understood to be overarching to all aspects of governance and management. Canada is one of the leading countries in applying a tourism model to park management that seeks to achieve both, sustainable tourism development and high levels of ecological integrity in national parks (Eagles, 2008a).

Table 4: Aspects of governance according to Eagles (2008a)

Aspects of governance	Options
1. The identity and role of the owner of the land and resource	a. Public – government (national, state, regional or local) b. Private – non-profit c. Private – for-profit (group of individuals, corporation or private individual) d. Community
2. The source of the income for management	a. Government grants b. Fees and charges c. Donations
3. The type of management body	a. Government agency b. Parastatal (corporation owned or wholly controlled by government) c. Non-profit corporation d. For-profit corporation e. Community

Derived from Eagles (2008a)

Lockwood (2010) comments positively on Eagles' three component approach of functional governance, which outlines the varying combination of actors and generates additional layers of governance diversity and opportunity. Many combinations of the above categories are possible, but Eagles (2008a) identified seven more common combinations, presumed to have advantages and leading to their more widespread adoption. These seven models, plus an eighth less common model, are outlined in Table 5. Those with particular relevance to trail management models in this research are discussed in more detail.

Table 5: Eagles' governance model descriptions (2009)

Model	Detailed description
National park model The land and resource is owned by the government, most of the funding originates from taxes and the government agency is the manager.	Most common park management model. It originated in the USA and is therefore also known as the American model, though it is also common in Scandinavia. This model is considered to provide conservation effectiveness, have a wide range of stakeholders, and have a strong strategic vision. It is often considered unresponsive, inflexible and fiscally inefficient due to fixed yearly budgets, no end of year carry over and no ability to retain income. In regards to recreation services it is considered inefficient, inflexible and costly. Though government funding is seen as the most equitable approach for most citizens, ensuring access to parks is free or very low cost.
Parastatal model Government ownership of resources, majority of funding from user fees and government-owned corporation as manager.	Operating like a government owned company with greater financial flexibility.
Non-profit organisation model Resources ownership by non-profit organisation, majority of funding from donations and management by non-profit organisation.	A rapidly developing approach in form of land trusts in South America, United States and United Kingdom, and emerging in Australia and Canada. Strong public participation with variable levels of strategic vision. Financially efficient and effective.
Ec lodge model Resource ownership by for-profit corporation, funding from user fees and management by for-profit corporation.	Private companies owning land and earning income from resource conservation and tourism. Accountable to self only with weak transparency to broader society.
Public and for-profit combination model Government ownership of resources, management and finance undertaken by combination of public and private organisation.	Used by park agencies to deliver profitable components of recreation and tourism services, e.g. food stores, restaurants, equipment rentals, guiding, lodging, specialised recreation services and transport. Is financially efficient with low levels of accountability for the company.
Public and NGO combination model Land and resource is owned by government, management and finance undertaken by a combination of public and NGO.	Another model originating from the USA, where the National Parks Service first started with friends groups in the 1970s. This model was adopted in other countries largely to enhance the visitor experience through the provision of park interpretation, educational and recreational objectives. At times the NGO partner also takes responsibility for tourism and recreation services. This model is considered to have strong public participation through direct involvement, leading to consensus orientation and a strong

	<p>strategic vision and responsiveness. An NGO on its own may have variable levels of strategic vision, including being short term and opportunistic. But this is a key strength of the government partner, and therefore a combined overall strength. It is highly financially efficient due to volunteer contribution. The wide range of citizen engagement ensures that goals are achieved and therefore effectiveness is also considered strong. Any individual can engage through donation of time rather than payment. NGOs often have special programs for underprivileged, ensuring equity is high. NGOs bring together a diverse set of stakeholders which builds civil society and aids in social cohesion. It is suggested that friends groups have an overall governance advantage compared to government, probably due to the financial effectiveness, efficiency and responsiveness.</p>
<p>Aboriginal and government or joint management model Aboriginal groups own the land and resource, which is managed by the government.</p>	<p>This model was rated low due to perceived weaknesses in public participation, consensus, responsiveness, efficiency, accountability and transparency. This model has been used successfully in England and Wales, where national parks are designated landscapes that consist of primarily privately owned lands incorporating agriculture and forestry (Newsome et al., 2013). This is based on long histories of human occupancy and private ownership, with the intent of retaining the landscape from development.</p>
<p>Traditional community model The land and resource is owned and managed by the community.</p>	<p>Rapidly developing model and under extensive experimentation in Africa, where it is used as an alternative to the national park model. During the creation of national parks people are removed from the land, whereas this model avoids the negative social impacts of community displacement, poverty and conflict. Land ownership and management of the land and tourism services are private. The strategic vision and societal consultation is locally specific, with conservation actions typically being opportunistic. Weakness in strategic goals setting, resulting in an inability to evaluate, and therefore rendering this model as moderately effective. Accountability and rule of law is weak, especially around money management. Efficiency and equity is high due to the extensive effort of volunteers and community involvement.</p>

Derived from Eagles (2009) unless otherwise stated

Limited systematic application of governance criteria has previously been applied to the management of parks and protected areas, according to Eagles (2009). He analysed good governance using ten basic governance principles, which have been applied in Table 5 to ascertain key differences, benefits and deficits of each model. The ten principles are: public participation, consensus orientation, strategic vision, responsiveness to stakeholders, effectiveness, efficiency, accountability to the public and stakeholders, transparency, equity and rule of law. These are based on the five good governance principles set out by the United Nations Development Program: legitimacy and voice, direction, performance, accountability and

fairness (Graham et al., 2003). Eagles (2008a, 2009) recommends that the choice of a model should be based on these criteria.

When Eagles applied these ten governance principles to the above eight models he found that the highest ranking was the public and NGO combination. He considered this “close to the ideals of good governance” (2009, p. 244). The local community and private models scored poorly, and were considered as having self-centred objectives, lacking broad consultation. The national park and other government combination models received average scores. For the public and NGO combination efficiency, public participation, strategic vision and responsiveness were the highest scoring criteria, and considered of most value to the public, with financial efficiency the most highly valued criteria. Concerns about the NGO partner include their omnipresent need to raise money towards financial self-sufficiency, as discussed by More (2005). Graham et al. (2003) noted that governments are seeking to transfer functions to the voluntary sector, expecting them to ‘pick up the slack’ as they withdraw from funding. The governance model most highly ranked by Eagles (2009), partially due to its financially efficient volunteer component, may therefore not be a choice, but rather a political outcome. Governance is considered a vehicle to achieve set values and cultural norms, as well as social and economic outcomes, making the preferred type of governance an important debate (Graham et al., 2003).

This literature review identified only a couple of reviews and evaluations of trails, which include their historical background and reasons for their establishment (Meyer, 2010; Zealand, 2007). The review and evaluation of trails as a concept is a key management strategy which is lacking in the literature. While this research report will not address this, it seeks to develop management models and frameworks, which can then be evaluated and reviewed.

2.2.2 Partnerships

Tourism products in protected areas are managed through a variety of governance structures, several of which contain a partnership, such as between government, NGO and business (Borrini-Feyerabend et al., 2013; Eagles, 2008a; Namgyel, 2011). This section reviews the literature about partnerships relating to protected area tourism. Long trails tend to traverse several land tenures and engage in a variety of operations, including tourism and conservation. Partnerships with relevant land holders, tourism and conservation organisations, and community groups, are a popular way of managing the diverse operations and management requirements (Erg et al., 2015). Limited trail specific literature for partnerships was identified, which utilised a case study approach (Brown, Mitchell, & Tuxill, 2003; Downs, 2000; Namgyel, 2011).

Laing et al. (2008, p. 1) stated the importance of partnerships “in order to achieve government policy objectives and provide a sustainable tourism product”. Wegner et al. (2010) suggested that partnerships are not just a means to achieve sustainable tourism, but also a vehicle for obtaining additional resources, funding and specialised skills. Tourism in protected areas requires a combined effort of conservation agencies, the tourism industry and the local community, due to its complexity, uncertainty and potential for conflict, as well as the fragility of the resource (Laing et al., 2008). Laing et al. (2008, p. 1) describe the way in which “the ability of these stakeholders to work together strongly influences the quality of the product, the satisfaction of visitors and the protection of the natural resource base on which the industry depends”. They further note that there is a growing perception that stakeholder relationships are important in nature based tourism.

Laing et al. (2008) analysed research relating to protected area tourism partnerships in order to identify factors of success and discuss theoretical perspectives. A key finding was the lack of research in this area, therefore, they supplemented their study with broader partnerships. Similarly, to analyse trails managed through partnerships in this research, generic partnership literature was included. Fennell and Dowling (2003) and Fyall and Garrod (2005) concluded that the validity of tourism partnership arrangements between public and private had received limited analysis. This seems to have changed in recent years with some research into tourism partnerships (De Lacy et al., 2002; Laing et al., 2009; Wegner et al., 2010).

Partnership types range from networking, coordination, cooperation, and collaboration, through to formal partnerships (Fyall & Garrod, 2005). Collaborations are often more short term and informal in nature, and they may lead to a more formal partnership. The collaborative approach emerged as an alternative response to financial and societal issues in the 1980s, which resulted in research and organisational theorists breaking new ground and offering better understanding of partnership requirements (Selin, 1999). According to Selin (1999), this resulted in conceptual models describing tourism partnerships effective for regional tourism in the 1990s, using the *Appalachian Trail* partnership model as an example. Another example is the Maritime Alps-Mercantour transboundary protected area, which includes the joint management of a trail network through close collaboration. A long history of shared management of adjacent lands with a common vision brought two parks together through cooperative management and governance, with a shared strategic plan (Erg et al., 2015). In 2013 this changed from a collaborative to a joint juridical structure between Italy and France using the European Union’s instrument of European Grouping of Territorial Cooperation, which allows

public entities to establish a new body with full legal personality under European Law. Lockwood (2010) suggests that protected area management requires a cross boundary and tenure approach to be effective, which includes multiple land owners. This necessitates complex trans-boundary partnership arrangements, such as the Maritime Alps-Mercantour transboundary trail network. Long trails often cross a wide range of tenures, including protected areas, private and other land, which usually result in cross boundary arrangements (Timothy & Boyd, 2015). Another trail example provided by the IUCN in their guidelines for transboundary conservation is the Richtersveld Transfrontier Park between South Africa and Namibia for the Desert Knights mountain bike and kayak trails (Erg et al., 2015).

To be able to better understand different partnership groupings, the roles of each have been defined for this research in Table 6. Of particular interest are the aspects of governance described by Eagles (2008a) - ownership of resource and management body - as these lead to the governance models applied for protected areas and trails. Depending on the size and regional importance of the trail, the relevant level of government would apply. The public sector, in Table 6, is the land owner responsible for infrastructure at each level, as well as management responsibility for tourism and conservation. The NGO roles include environmental protection and land management for conservation. Aboriginal and community groups can be land owners and be part of a management body as a key stakeholder.

To make partnerships successful Wegner et al. (2010) identified the need for policies that promote open and on-going communication, both formal and informal. Fyall and Garrod (2005) found that more formal governance styles were associated with positive collaboration performance. Risks to partnerships may arise due to lack of resources, including human, financial and time, during all phases of the partnership: start-up, maintenance and consolidation (Wegner et al., 2010). Financial resources were considered of particular importance in order to fund dedicated staff positions to manage these relationships. This is supported by Laing et al. (2008) who outline attention to administrative settings as being of particular importance. Trails sometimes do not receive sufficient income for their operations, which can negatively impact on the management of multiple partnerships. Another aspect of collaboration is the interlinked system of social relationship and Fyall and Garrod (2005) argue that effectiveness and length of collaboration is more likely if the social networks are deeply embedded. Imbalances of power in relationships create the potential for conflict (Fyall & Garrod, 2005), which can result from a trail partnership between government and NGO, such as through the use of volunteers and funding provisions.

Table 6: Stakeholder roles

Stakeholder	Role
Public sector	<ul style="list-style-type: none"> • Establish legal, policy and institutional frameworks for tourism industry function, sustainable development and environmental protection • Primary link between sectors, partially by being the regulator of natural resources and promoter of economic development • Public policy, transport, infrastructure, investment, employment
Local	<ul style="list-style-type: none"> • Local infrastructure and waste management • Local destination management • Management of council reserves • Planning and zoning of appropriate land use
State	<ul style="list-style-type: none"> • Parks and protected area management • State tourism development and promotion • Transport infrastructure, ports and water • Employment capacity, including training
National	<ul style="list-style-type: none"> • Legal and regulatory framework • Initiating and developing broad tourism and natural resource policy • Lead integrated tourism/environment policy • Overall economic development, environmental and heritage protection • Investment promotion, tax structures and employment conditions • Infrastructure funding • National tourism development and promotion
International	<ul style="list-style-type: none"> • Global tourism development • Protected area definition and concepts • Promoting global best practice and ethics • Facilitate knowledge transfer • Advances in technology
Private	<ul style="list-style-type: none"> • Tourism operators - accommodation, transport, food, services and associated services. • Has an interest in protection of natural resources and can participate in self-regulated environmental/tourism schemes. • Can be financial or other supporter of protected areas • Can be a financially dominant stakeholder • Promote destinations
NGO	<ul style="list-style-type: none"> • Pressure groups, drivers of policy and facilitator of process at times • Increasing importance through extension of role, particularly in environmental protection and management of privately owned protected lands
Aboriginal people	<ul style="list-style-type: none"> • Hold stewardship of the land • Joint management
Community	<ul style="list-style-type: none"> • Welcoming environment • Local pressure group
Consumer	<ul style="list-style-type: none"> • Influence public policy via behaviour and spending • Often researched via user surveys
Donor/sponsor	<ul style="list-style-type: none"> • Provides financial or other resources

(Adopted from De Lacy et al., 2002; Fennell & Dowling, 2003)

Laing et al. (2008) suggest that partnerships for protected areas need to consider balance of power, which may arise out of unique issues, like land tenure, level of control over land use and the necessity of a partner's involvement, such as government.

Figure 2, adapted from Borrini-Feyerabend et al. (2013), shows the level of control from the perspective of government. For example, a government agency may transfer full authority to an NGO for the purpose of trail management. From the NGO perspective, Figure 3, they are required to accept this responsibility. Selin (1999) applied a similar partnership model between government and NGO partnership focusing on the locus of control scale, describing a partnership in relation to its involvement and responsibilities. He used the *Appalachian Trail* to demonstrate where authority and responsibility were transferred from the managing agency to a stakeholder group through a series of cooperative agreements. Selin (1999) had already noted a trend towards increasing community managed control for environmental and tourism government departments, while the mandated requirements remained with the agency out of fear of loss of power and decisions not being in the national interest.

Brown et al. (2003) described a case study of partnership arrangements for trails. Partnership areas, called 'non-traditional units', were added under the auspice of the USA NPS, which include long distance trails such as the *Appalachian Trail*. These units usually come under the management Category V Protected Landscapes/Seascapes, where people live and work within the landscape and the protected area is managed through a partnership. The reserve can remain in private ownership and private land conservation tools are utilised, such as purchase and exchange of development rights, purchase of scenic easements, land donation, tax incentives, zoning and local design review. Without any real authority over the land, tools like education, public-private partnerships and targeted investment provide opportunities for input. These partnership areas enhance recreational activities and the protection of nationally significant resources, which it would not otherwise happen, and other funding, or private contribution, can be used as leverage, extending government investment (Brown et al., 2003). Seekamp et al. (2011) describe how partnerships provide additional capacity under fiscal constraints and improve financial sustainability benefits to other USA agencies, such as the FS. In particular the delivery of recreation is supported through many partners within the FS, like campground hosts, corporate sponsors, friends groups, guides, volunteers, recreation groups, businesses, governments, outfitters, prisoners, trail associations and youth groups (Seekamp et al., 2011).

Authority, responsibility and accountability in governing protected areas: a continuum

Full control by government agency

Shared control

Full control by NGO

←

→

Taking management decisions without consultation

Consulting with NGO and seeking their consent (at times via benefit sharing)

Negotiating specific agreements

Ceding authority & responsibility in a formal way (e.g. relinquish most seats in a government body)

Recognising/transferring full authority & responsibility to NGO

[illegible]

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2.2.3 Conservation

The first national park was created in the USA in response to concerns about extractive uses typical of the late nineteenth century (Sellars, 1997). As occupation and settlement spread in countries like the USA, Canada and Australia, more and more natural land was utilised for agriculture, timber industry, mining, fishing and urban settlement. Yellowstone was the first national park created in 1872 in the USA, which was closely followed by the Royal National Park in Sydney, Australia, in 1879 (Sellars, 1997). According to Sellars, the purpose was the protection of flora, fauna and landscape values, as well as recreation and tourism. Banff Hot Springs in Canada was set up as a pleasure park in 1885, and Yosemite, USA, in 1890, also had a major focus on recreation. More recently, national parks are considered to positively affect the economy and regional development, the environment beyond park boundaries, and social sustainability in general (Weiler, Moore, & Moyle, 2013).

In the last few years, research suggests a downturn in visitation and support for national parks relative to population growth in some countries, including the USA, Japan and Spain (Weiler et al., 2013). Weiler et al. (2013) point out the lack of research into national park support. Sustaining and enhancing visitor experiences is considered a “key strategy for enduring public support and thus survival” (Weiler et al., 2013, p. 4). Other researchers, including Louv (2005), have taken a social perspective on the effect of declining nature experiences and consequences on the individual. In particular, younger generations grow up without the experience of nature resulting in what Louv terms ‘nature deficit disorder’. Nature play is considered an important aspect of a healthy childhood. Disengagement from experiences in the natural environment correlates with declining support for national parks and a wider conservation objective (Weiler et al., 2013). A study by McKay (2010) demonstrated an increased focus on the environment during the on-site experience of appreciative recreationists at Congaree National Park, USA. Early childhood experiences are the most important factors in developing environmental concern, according to analysis by Place (2004). Research by Newhouse Berns and Simpsons (2009), however, suggest that specific aspects of outdoor play or recreation need to be considered when seeking association with environmentalism, as not all activities lead to this.

In combination with global financial uncertainties and government funding reductions, parks are facing a loss of resources for management and visitor services (A. Hill, 2012; Timothy & Boyd, 2015). Trails provide access to the natural environment and positive nature-based experiences, which results in support for parks and broader conservation values (Newsome et al., 2013; Timothy & Boyd, 2015). Research into sustainable trail models can therefore meet key conservation priorities and provide future support for protected areas.

Trails can have positive, negative or neutral impacts on the environment. The important role trails play in protecting the natural environment was discussed by Timothy and Boyd (2015), who suggest that positive impacts include: environmental education through interpretation and appreciation of nature, providing a conservation corridor, alternative transport routes and controlled access paths to natural or cultural sites. They describe the conservation aspects of trail related legislation and government policy, such as the USA National Water Trails System of 2012, which contains environmental protection. The *National Trails System Act 1968* also includes preservation promotion as one of its objectives. One example of this is the hanging trails in rainforests, which can contribute to forest generation by providing low impact tourism that provides employment alternatives to working in deforestation or ranching (Timothy & Boyd, 2015). They further describe how primarily urban greenways utilise and raise awareness of green corridors, which can include important homes for endangered species or are cultural sites, such as the former border between east and west Germany. As trails often cross regional and conservation boundaries, Timothy and Boyd (2015) add cross-border cooperation for research, conservation, cultural or education exchanges, contemporary artistic and cultural practices and sustainable tourism as conservation benefits. According to Graham et al. (2003) it is considered best practice to achieve resilient conservation outcomes through broad area conservation management.

To assist with better manage conservation and reduce visitor infrastructure impacts, several helpful research reports have been published internationally about environmental effects from trails and their users (Hadwen, Arthington, Boon, Lepesteur, & McComb, 2006; Pickering & Hill, 2009; Pickering, Hill, Newsome, & Leung, 2010; Wimpey & Marion, 2010), including Chinese (Li, Ge, & Liu, 2005) and Spanish reports (Estela, Grau, & Camps, 2005; Torbidoni, 2011). There are also a limited number of safety assessment research reports (Pickering, Castley, et al., 2010). Timothy and Boyd (2015) provide several examples of positive and negative impacts from trails, as well as best practice trail planning, development and management strategies. An example of research into trail user conflict is by Beeton (2006), which has arisen as an issue in more recent years, primarily through increased trail user numbers and multi-use of trails, including hiking, cycling, horse riding and trail bikes. The dual mandate of providing access to the outdoors and protecting these natural environments through appropriate trail planning and design, public education and efforts to mitigate effects of damaging use, was stated as definitely possible by Timothy and Boyd (2015).

The impact of users on land based trails includes soil erosion and compaction, widening of trails, damage to vegetation along trail edges and disturbing wildlife (Pickering, Hill, et al., 2010). Wildlife impacts include interruptions to breeding and feeding behaviours through habitat destruction and human interactions (Worboys et al., 2015). Camp sites, in particular, provide a disturbance to wildlife, and poor hygiene can lead to water and other pollution. Food remnants can make wildlife ill and carry diseases. Poorly maintained trails may have exposed roots and deep drainage channels, leading to accidents, as well as spreading of weeds and soil pathogens (Pickering & Hill, 2009). Inadequate or insufficient trails can lead to unauthorised and unsanctioned trails, which are likely to have a greater impact on the environment due to the lack of consideration for environmentally or culturally sensitive areas (Pickering, Castley, et al., 2010). Poorly maintained trails increase travel difficulty, reduce visual appeal and create visitor safety issues (Pickering & Hill, 2009).

The twenty Aichi Targets 2011 to 2020 were the results of the Convention on Biological Diversity from the tenth conference in the Aichi Prefecture, Japan, which aim to achieve global biodiversity conservation. Aichi Target 11 specifically describes protected areas as fundamental for biodiversity conservation, which requires their effective and increased area-based coverage through working collaboratively with a wide range of stakeholders (Borrini-Feyerabend et al., 2013). These may include varying levels of government, indigenous people, local community, private landowners, businesses, non-profit trusts, non-government organisations, international agencies, professionals, religious and educational organisations. Bushell et al. (2007) suggest that conservation of protected areas is expensive and therefore multi-level governments usually provide the base funding. Particularly in developed countries, conservation often appears to be driven by recreation and ethics, rather than livelihood, according to Borrini-Feyerabend et al. (2013), making recreation an important aspect of conservation.

Each Aichi Target 11 objective is given different priorities and emphasis among the six categories, some of which can conflict with one another. An example, given by Borrini-Feyerabend et al. (2013), is that visitors can impact negatively on the ecological integrity of a protected area. Balancing of the two conflicts of conservation and tourism also applies to trails. The construction of trails and ongoing use by visitors has an impact on the natural environment. Those businesses making profits from trail related tourism, are reliant on the trail to exist, visitors to use it and the natural environment to be inviting. Tourism related income can flow back to the protection of the natural environment, either through taxes, user fees or donations (Borrini-Feyerabend et al., 2013). Newsome et al. (2013, p. 251) suggest that: "Protected areas

can contribute to conservation and tourism only if they are managed effectively.” The three-way link between tourism, conservation and local communities, described by Buckley (2010), is a key feature of a responsible tourism model. Protected area managers need to understand their responsibilities in regards to the development and maintenance of infrastructure, such as trails, as well as revenue generating powers (Graham et al., 2003). Conservation and the protection of the natural environment therefore needs to be a key component of any trail management model.

2.2.4 Infrastructure

Erosion and other environmental impacts from trails were recognised prior to the 1980s, which resulted in construction guides being developed and information on minimising environmental impacts being readily available (e.g. Newsome et al., 2013). It is only at the turn of the twenty first century that trail developers began to think more holistically, developing planning processes for suitability, which incorporate the location, user groups, trail type, cultural and social impacts, maintenance, and the management model. The presentation by Daffyd Davis at the State Trails Conference outlined the extensive planning and collaboration processes required, which can take six times longer than the physical construction phase (Davis, 2012b).

There is a range of good trail development, planning and construction manuals available, in particular the books by the International Mountain Biking Association (IMBA), such as *Managing Mountain Biking: IMBA's Guide to Providing Great Rides* (Webber, 2007) and *Trail Solutions. IMBA's Guide to Building Sweet Singletrack* (IMBA, 2004). Another good instructional publication is by the USA Forest Service (2012), though there are many more (DoT, 1991; Federal Highway Administration, 2012; Heritage Trails Secretariat, 1985; Proudman & Reuben, 1981; South Australian Trails Coordination Committee, n.d.). Good planning and design ensures lower maintenance of trails in the future, which makes them cheaper to manage (Davis, 2012a). The sustainable financial management of trails is one of the key aspects of this research and minimising operational costs is critical in this regard.

Research, planning and consultation, prior to trail construction, is still a developing field. An example of an early West Australian plan was for the Lake Needoonga Trails by Maher Brampton Associates (1999). They also wrote the initial plan for the *Munda Biddi Trail, the Proposed Long Distance Mountain Bike Trail - Trail Development Plan* (2000). This was later followed by the *Munda Biddi Trail Recreation Master Plan* written by the managing Department of Environment and Conservation (DEC) (n.d.). Research using a different approach to trail planning is explored in Taiwan utilising a GIS segmentation approach (Chiou, Tsai, & Leung, 2010). These types of

plans investigate where the trail could physically be built and provide the argument for its construction, but they do not address the management of trails.

2.2.5 Tourism operations

As early as 1999, Lane (1999) reported on the potential benefits from tourism for trails in Europe. Tourism can be a positive partner for trail development and maintenance, which benefits both parties. Tourism can provide financial and political support for trails, which, in turn, provide economic benefits to the region (Lane, 1999). Hikers and cyclists generally travel to their trail destinations, potentially spending money on tourism related items such as transport, meals, accommodation and equipment. Tourism operators provide information and services to attract trail users, including trail related visitor information and services. Therefore, trails can provide significant economic benefits for their regions, making them popular for regional development bodies (Hughes et al., 2016; Timothy & Boyd, 2015). Increased visitation can provide economic opportunities through tourism with limited adverse impacts on the environment, especially when compared to other industries such as mining and forestry (Newsome et al., 2013). But tourism can also have negative impacts on the environment and people's livelihoods if poorly managed (Newsome et al., 2013; Sheppard & Steiner, 2007). Thus tourism development is a critically important issue for protected area managers. Governments are often responsible for protected area tourism and have an interest in terms of benefits to the economy and society, in addition to minimising negative impacts on the environment and communities (Page, 2009). Nature based tourism relies on access to natural and protected areas, including roads, walking and other trails, according to Newsome et al. (2013). In the last decade trails have been realised for their economic potential and research has highlighted these opportunities and impacts (Beeton, 2009; Briedenhann & Wickens, 2004; Bruce, 2009; Faulks et al., 2008; Faulks et al., 2007; Spencer, 2010). Many trail specific visitor guides are available such as the Lonely Planet publications which includes 29 Activity Guides among over 500 travel guides. There are also a range of trail specific guide books and maps, like the Top Trails series (Milne, 2011), or *60 Trails within 60 Miles* by Ruff (2011).

A rare, and again case-specific, example of trail specific research examined the *Nabji Trail* in Bhutan (Namgyel, 2011). The government established the ecotourism project in the Jigme Singye Wangchuck National Park to meet the national tourism policy objective of providing income to rural people, while also enhancing the protection of ecological and cultural resources (Namgyel, 2011). The five day walk opened in 2006, crosses six villages and has five camp sites. Namgyel (2011) describes how governance incorporated a range of government levels and elected members at the local level in each community. Local villages provide tourism services,

such as porters, guides, cooks, selling handicraft and providing cultural entertainment, while government developed and provide the destination and promotion.

Trails are a tourism product within a destination, and Faulks et al. (2008) investigated their potential to contribute to destination development through marketing for the South Australian Tourism Commission. The needs and motivations of cycle trail tourists were identified to develop appropriate marketing and product development strategies. Visitor experience evaluations are essential to ascertain satisfaction and also to implement improvements. Several trail specific reports have investigated trail users experiences and their visitation (Goldenberg et al., 2008; C. B. Griffin, 2010; Hoover, 2011; Ralston & Rhoden, 2005; Regula, 2011; Spencer, 2010; Wearing, Schweinsberg, Grabowski, & Tumes, 2008). Some visitor surveys are part of broader protected area research and most use well developed techniques and methods (S. Griffin, Morre, Crilley, Darcy, & Schweinsberg, 2010; Jones, Hugher, Wood, Lewis, & Chandler, 2009; Moore, Crilley, et al., 2009; Weaver & Lawton, 2011).

Marketing books continue to suggest the traditional competitive marketing paradigm, while the collaborative approach represents more opportunities. It is suggested that bringing together combined knowledge, expertise, capital and other resources will provide a competitive advantage (Fyall & Garrod, 2005; Martin & McBoyle, 2006; Selin, 1999; Wegner et al., 2010). Benefits of cooperative marketing, in particular, include access to new customers, provision of packaging, spreading the costs, undertaking more ambitious campaigns and providing benefits to the natural resource (Wearing, Archer, & Beeton, 2007). Collaborative approaches to tourism influence the quality of the experience, the visitor satisfaction and the protection of the natural environment (Laing et al., 2008; Wegner et al., 2010). The North Pennines Tourism Partnership is a good example of a trail tourism focused collaboration that markets and promotes the long distance multi-use *Pennine Way* in the United Kingdom (Fyall & Garrod, 2005). Their activities include the development of walking itineraries, assisting the development of a camping barns network, improvements to existing visitor attractions and the development of new visitor attractions. Other initiatives include boundary signage for North Pennine Areas of Outstanding Beauty, and programs that helped set up the North Pennine Farm Holiday Group and funded a number of arts and crafts initiatives.

Fyall and Garrod (2005) describe the breakdown of the divide between private and public sectors, partially as a response to tightening budgets, combined with political and public pressure for accountability. These partnerships are important as they combine the private sector strength in marketing with the public political and economic resources (Laing et al., 2008).

Promotion of the destination through collaboration is often in the form of campaign development between state, local government and businesses. As an example, the North Pennine Partnership is made up of statutory agencies, local authorities and community organisations (Fyall & Garrod, 2005). This includes having strong stakeholder cooperation, a destination marketing organisation and support for a single brand strategy, which is likely to result in considerable growth (Fyall & Garrod, 2005).

It is increasingly difficult for businesses to survive alone, and therefore it is vital to develop partnerships that offer complementary strength and result in an attractive product (Fyall & Garrod, 2005). This is hindered by the lack of literature exploring tourism marketing relationships and outcomes of collaborative strategies, in particular those utilising a theoretical framework (Fyall & Garrod, 2005; Martin & McBoyle, 2006). No literature was identified that specifically addressed tourism partnerships for trails despite the extensive use of partnerships for trail management, partially due to their cross regional nature. Research into cooperative destination marketing would have immediate implications for tourism providers, including internal dynamics of collaboration and economic benefits. Timothy and Boyd (2015) were the first to extensively address the combined concepts of tourism and trails.

Protected area management needs to ensure the preservation and conservation of natural and cultural heritage, provide appropriate access to the public, such as through trails, and build community awareness and ownership of the natural area (Wearing et al., 2007). Social marketing strategies can increase public support for parks and their trails. Commercial and competitive advantage is the key focus for the tourism industry, whereas, marketing strategies undertaken by park managers in collaboration with the tourism industry may include ecological, social, relationship and demarketing, according to Wearing et al. (2007). For trails, government departments may also include the promotion of health and social benefits to the marketing mix (Timothy & Boyd, 2015).

Effective marketing and promotion of trails increases their economic impact and provision of opportunities. Tourism income benefits the trail directly, or indirectly, in towns and communities along the way, known as trail communities. For long trails in particular, it is vital for users to access facilities and services in towns, such as accommodation, food supply, transport to and from the trail and repairs (Timothy & Boyd, 2015). Therefore, there are two aspects that need to be managed: the product, which is the trail as a visitor attraction, and the destination, which are the communities along the way. The unique roles of environmental protection and tourism marketing need to be considered separately before a combined

marketing strategy can be developed. Page (2009) suggests that the greatest management issue for visitor attraction operators is matching the product to the benefits sought by the consumer.

2.2.5.1 Product

It is generally the goal of a tourist destination to attract more visitors. This is often through the presentation of alluring images of places to visit, experiences to enjoy, cultures to absorb and comfortable facilities that make visitors feel welcome. The Handbook on Tourism Product Development (UNWTO, 2011) suggests that all destinations engage in marketing and promotion, but far less focus on the development and delivery of the attractions and activities that make up the tourism product. If the tourism product does not meet the needs and expectations of tourists, the destination cannot reach each its full potential. The product, such as a trail of regional or national significance, is the basis for a destination's tourism sector operation and the destination marketing commences with the product research. Therefore the product development needs to be based on market research, which then results in targeted marketing (UNWTO, 2011). Market research incorporates demand and customer segments, available resources, supportive industries, industry structure and rivalry. Knowing your target market and what experiences they are seeking, such as entertainment, aesthetic, educational or escapism, informs the product, with trail users likely to be represented in the last two categories (Timothy & Boyd, 2015). A plan is developed out of the research, defining a vision, goals and strategies. This includes a target market strategy and a positioning and branding strategy. The United Nations World Tourism Organisation describes the importance of a product within a destination as:

A destination cannot undertake marketing without featuring its products, and a destination's products cannot become popular components of its tourism offering without being actively and creatively marketed. (UNWTO, 2011, p. 12)

Key product principles should follow sustainable tourism development guidelines, such as being authentic, having the support of the host community, respecting the natural and socio-cultural environments, being differentiated from competitors, and being of a sufficient scale to make a significant economic contribution, but not so large as to create high economic leakage (UNWTO, 2011). Trails often cross administrative boundaries, which are not recognised by tourists, therefore working closely with neighbours creates experiences for tourists that will be mutually beneficial. The optimal tourism product meets the triple bottom line requirements while maximising visitor spending and satisfaction (UNWTO, 2011).

2.2.5.2 Destination

According to Kozak and Balogly (2011, p. 154) “tourism destinations consist of distinct and interrelated products and services under a brand name and generally are considered a geographical area.” A geographic area can be defined as a destination, location or place. According to Yunis (2007, p. xiv): “From a destinations’ point of view, tourism often represents the only opportunity for natural areas to develop an economic activity without deteriorating their environment or disturbing the ecological balance”. Increasingly communities benefit from natural area tourism and many protected areas have achieved conservation through visitor fees and contribution of tourism beneficiaries. Timothy and Boyd (2015) discuss the importance of coordination between land agencies, land owners, transportation bureaux, tourism offices and commercial interests. They suggest that a formalised group should be responsible “for marketing, coordinating infrastructure and preservation is the best way to manage a multi-use and long distance trail” (Timothy & Boyd, 2015, p. 190). Destinations are referred to as trail communities by some trails and their connectedness improves the services for the trail user and maximises community benefits (ATC, n.d.; Hughes et al., 2016). Unfortunately literature discussing trail destinations is lacking, which is particularly concerning as destinations are a vital aspect of trails (Timothy & Boyd, 2015). Without trail communities users require a higher level of self-sufficiency, which is likely to result in lower user numbers. Cooperation between those responsible for tourism development, including private and public, is essential to sustainably manage the protected area and the destination (Kozak & Baloglu, 2011; Yunis, 2007). This would be of particular importance for the government and NGO trail management partnerships.

Kozak and Balogly (2011) discuss the need for sustainably managing a destination through a careful balance between a memorable experience against development, heritage protection, attractions, resources and human capital. Key aspects are management of the tourism system, from arrival to departure, and management of the brand attributes, its dissemination and consistency (Kozak & Baloglu, 2011). Tourist destinations increasingly understand the importance of demonstrating their unique position through branding to survive in a highly competitive environment (Kozak & Baloglu, 2011). Fyall and Garrod (2005) suggest that an ideal marketing scenario would be where the private sector engages in roughly equal individual and destination marketing. The destination marketing component of private and also local government would be combined with input from the national and state tourism organisations and delivered through a destination marketing organisation (Fyall & Garrod, 2005). A reduced responsibility of this kind of organisation, where the private and local government undertake some direct destination marketing, would result in a weaker marketing image.

Kozak and Balogly (2011) suggest that tourism products are highly competitive and visitors easily switch to other potential destinations, if these appear more likely to meet their expectations. A destination brand is what makes a destination distinctive and memorable by differentiating it from all others, the foundation of its international competitiveness. The destination brand inherits its core values from its landscape, people, culture and history, and how they are perceived by potential visitors (UNWTO, 2009). The reputation of a country, region or tourism destination exerts a high level of influence over the behaviours and attitudes of a target audience, not just potential visitors but also foreign investors, entrepreneurs, trade partners, media, governments and donors (Anholt, 2009). The branding image provides a shortcut to an informed buying purchase above prejudices and fundamental beliefs of the target market. "Put simply, a destination with a powerful and positive image needs to do less work and spend less money on promoting itself to the marketplace, because the marketplace already believes what it is telling them. It merely has to help buyers find and purchase the product" (Anholt, 2009, p. x). Tourists often create their own image of a destination through direct experience, feedback from others, branding, and foreign and domestic policy reported in international media (Anholt, 2009). Perceived environmental credentials, competence and attractiveness as a place are three specific areas of reputation that affect people (Anholt, 2009).

2.3 Chapter conclusion

This literature review identified that trail management requires legal systems for the political and funding aspects, particularly in regards to protected areas and trail specific support. A country's political direction determines park management models in regards to government provides versus user pay. Volunteering is a key component for many trails, specifically providing affordable labour for high maintenance long trails. Governance influences the effectiveness of protected area management, with a notable shift towards increased community involvement. Eagles' (2008a, 2009) model of governance provides options for partnership management of tourism in protected areas. Partnerships offer possibilities and opportunities to manage the multifaceted aspects of trails. Tourism operations can provide funding for conservation with less impact than other industries, if the infrastructure and visitation is planned and developed within a holistic sustainability framework.

Literature about governance, partnerships, conservation, infrastructure and tourism presented the components of trail management, though mostly without addressing trails specifically. The literature review identified trail specific publications in the form of user guides, environmental and economic impacts, development and maintenance of infrastructure, visitor experiences and tourism. Only one unpublished report was identified which specifically analysed management

models of trail associations in the USA (Brinkley, 2013). Two research reports analysed individual trail management models in individual case studies and provided insight into their complexities (Downs, 2000; Namgyel, 2011). No literature was identified which investigated and analysed the management, or business models of trails across different examples. There was also no analysis of trail management, which could assist their managers to improve trails from a financial sustainability perspective. This appears to be the biggest gap in literature about trails. The findings of the literature informs the methodology and research questions, which seek to fill the gaps in the literature identified here and provide guidance for trail managers.

Chapter Three – Research methodology

Limited research has been carried out about trail business or management models. Brinkley (2013) had undertaken similar research of investigating trail management models by interviewing trail managers, but this had been based on theory, is informal and unpublished. Some of her processes and questions were incorporated in this research. No other trail management specific research was identified to guide the design of this study. Therefore, this research has relied on related business, protected areas and tourism literature to develop a suitable methodology for addressing the research questions posed. Eagles' (2008a, 2009) governance model for protected areas, as discussed in the introduction and reviewed in the literature section, provided a useful tool for analysing types of trail management models by drawing out the key differences of resource ownership, income source and type of management body. This model guided the areas of investigation through interviews, the review of written documentation and on-site assessment. The interpretative social science paradigm represents the framework for this qualitative multiple case study comparison. This chapter describes the research design and strategy to investigate ten trails from around the world. The study sites will be presented in the following chapter. Semi structured interviews were the main data collection method. Assumptions, limitations and transferability of this research are provided and discussed.

3.1 Basic assumptions

The trail study sites for this research were mainly chosen on the basis of their high ratings through the user informed National Geographic trail lists (National Geographic, n.d.). The assumption was that highly rated trails performed well and had good management practices in place. A test for this assumption was the author's observations when visiting several of the trails in this research, including assessment of trail infrastructure and visitor information from a trail expert and hiker's perspective. A snowball sampling strategy, as discussed by Jennings (2010), where key informants offered advice and suggestions on sample inclusions, was applied to the additional trails. These trail additions were included in the study in response to recommendations by international trail experts, as representing best practice, being managed through a different model or representing a different continent or country. No literature was identified which highlighted international best practice trails or a financially sustainable management model.

3.2 Research design

The research design consists of the plan or proposal to conduct research, and involves the intersection of philosophy, strategies of enquiry and specific methods (Jennings, 2010). The worldview is reflected in the paradigm, which is defined as a set of beliefs, or “the overlying view of the way the world works” (Jennings, 2010, p. 35). The research paradigm provides the broad framework for how perceptions and understandings of nature of the world, and so underpins the research thinking and actions. The interpretative social sciences paradigm, also known as the constructive paradigm, is underpinning this study. It is described by Jennings (2010) as one that may inform tourism research. It is based on the work of Max Weber (1978) and his term ‘verstehen’ or empathetic understanding (Farquhar, 2012; Jennings, 2010). Repeated observation and analysis of data leading to the formation of theory or models is described as an inductive approach (Allen et al., 2014; Farquhar, 2012). This research used an inductive approach embedded in the interpretative paradigm to develop explanations of phenomena, which is consistent with the lack of well-developed theory and prior research in the area of investigation and the use of qualitative methodology (Farquhar, 2012; Jennings, 2010). The phenomena to be explored in this study is the financially sustainable management of trails from a tourism perspective. Generalisations were used as the basis for theory generation and thereby subsequently building knowledge about the world. Business model development can occur through generalisations from the fact of experience on the one hand and theory on the other, providing an empirical and conceptual grounded account (Baden-Fuller & Morgan, 2010).

3.2.1 Rationale for qualitative approach

The paradigm, methodology, strategy of inquiry and methods, all contribute to the research design, which may be qualitative, quantitative or be comprised of mixed methods (Creswell, 2009). The interpretative social science paradigm applies a qualitative methodology, seeking empirical materials collected in the real world or natural setting. For research that seeks to understand a concept or phenomenon because little research exists, the qualitative approach is merited (Allen et al., 2014; Creswell, 2009). Its explorative nature is useful when important variables are unknown, because it is a new topic and existing theories do not apply. For this study the aspects of trail management had not previously been determined in the literature, but were categorised here under external and internal, as viewed from the trail managers’ perspective. Creswell (2009, p. 4) describes qualitative research as “a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem.” Through in-depth analysis it involves examining emerging questions and procedures through data analysis and inductively building these into a theme. The trail related areas of management

models and financial sustainability had not previously been explored in the literature. Qualitative research therefore provided an appropriate approach of investigation into this new area with unknown variables through in-depth interviews and analysis. This was explorative research into a new field of business management models, seeking key management variables, emerging themes, concepts and a new model or theory, as supported by Creswell (2009) and Allen et al. (2014).

3.2.2 Multiple case study strategy

Strategies of inquiry are types of research designs, which, as part of qualitative research, include ethnography, grounded theory, phenomenology, narrative or a case study approach (Creswell, 2009), which was applied in this research. It is described by Creswell:

Case studies are a qualitative strategy in which the researcher explores in-depth a program, event, activity, process, or one or more individuals. The case(s) are bound by time and activity, and the researchers collect detailed information using a variety of data collection procedures over a sustained period of time. (2009, p. 227)

Yin (2014) adds that case study enquiry can manage when phenomenon and context are not sharply distinguishable in real-world situations. Case study research is relevant when seeking to explain a phenomenon through extensive and in-depth description through 'how' and 'why' questions, when the researcher has no control over actual events and the degree of focus is contemporary (Yin, 2014). Jennings (2009) notes that intense case study observations or empirical material collection may be over a short period of time. The advantage of multiple cases is a stronger argument for the validity of study where the evidence is considered more compelling, whereas the depth may be reduced due to resource limitations (Farquhar, 2012).

This research sought an in-depth understanding of several international trail models to gain an understanding of how the management of long distance trails addressed the challenges of financial sustainability, their models and the components, and the partnerships of each. To understand the background to this research the analysis ascertained complexities particular to long trails. The identification of the key factors in a successful sustainable trail management model can provide concepts and ideas for trail managers and others involved with trails. A multiple case study strategy was applied to explore business management models, whether defined in theory or practice. A small number of individual cases were investigated through in-depth interviews, analysis of written documentation and observations. These forms of data collection are considered appropriate for qualitative research (Creswell, 2009; Jennings, 2010; Layder, 2013).

A multiple case study approach was also chosen by Brinkley (2013) when investigating models for a new trail management NGO structure. She undertook informal interviews with several managers from different trails to find out their governance structure on behalf of the USA NPS. A case study approach was also utilised by other researchers, including Moore et al. (2009), as it allowed for explanatory and exploratory approaches. Several tourism researchers have used a case study approach to investigate protected area partnerships (Buckley, 2011; De Lacy et al., 2002; Eagles, 2009; Moore, Weiler, et al., 2009).

According to Moore et al. (2009) most researchers used singular case study approaches, however, they used a multiple case study to achieve literal and theoretical replication. Similarly, Alimoradi and Sharif (2011) used a multiple case study approach to research essential skills for tourism business managers. They compared two case studies in their research to specifically identify key capabilities to critical success, relying solely on qualitative interviews. They justified using multiple case studies by citing Yin's (cited in Alimoradi & Sharif, 2011) replication approach, and Eisenhardt's (cited in Alimoradi & Sharif, 2011) process of inducting theory through case studies. Eisenhardt requires the search for cross-case patterns to identify emerging concepts or propositions.

In line with these multiple case study approaches, this study investigated ten cases to identify key components of financially sustainable long trail management models. The multiple case study analysis provided opportunity to access several types of informal models and drew out the best components of each trail, some of which were incorporated into the financially sustainable trail management model.

3.2.3 Comparative research

A popular form of comparative analysis is constant comparative analysis, which stems from the grounded theory methodology of Glaser and Strauss, as cited by Mills (n.d.). According to Mills (n.d., p. 1) "It involves taking one entity or piece of data, such as a statement, an interview, or a theme, and comparing it with others to identify similarities or differences." Comparative research is used within most qualitative analysis, including case study comparison (Mills, n.d.; Silverman, 2011). It assists "to establish regularities, categorizations, and links, or to understand phenomena within the context they are observed and experienced" (Mills, n.d., p. 1).

Comparative assessment of tourism policy has provided a better understanding of sustainable tourism management, as suggested by Ayuso (2007). She sought outstanding examples of 'best practice' as one of the case selection criteria and her method included in-depth semi-structured interviews, direct observations, and review of documents and media materials. Eagles (2009)

investigated governance of tourism in protected areas and used ten criteria to compare management models, a similar process to that carried out in this research. Case study comparison was also utilised by Brinkley (2013). This type of research can assist with planning and the development of strategies and policies (Creswell, 2009).

Comparative analysis was used in this research to extract similarities and differences in trail management methods. This comparative research studied cases across different continents over a period of one year to identify emerging concepts and management categories. Information gathered through the data collection identified trail components and models, as determined by the interviewees. The components and models were compared and used to develop a financially sustainable trail management model.

3.2.4 International nature

International comparison is a common application of comparative research and is likely to include Haraway's concept of situational knowledge, described in Mills as "the idea that meanings are often embedded in local, national, and global contexts" (cited in Mills, n.d., p. 2). Little has been written on cross-national research, with its specific challenges. Gómez and Kuronen (2011) specifically described their comparative case study research in reflection of its cross-national nature. They too undertook small scale qualitative research, which allowed them direct on-site access and a more 'insider' approach. Gómez and Kuronen (2011) outlined that research problems can arise from differences between countries, including political, legal systems, cultural and history.

The literature review revealed that trails are often managed similarly within each country, such as the USA trail system. To gain a broad spectrum of models and management approaches the research sites were chosen to reflect an international, cross-country and continents perspective. This international investigation of trails incorporated seven countries from five continents.

3.2.5 Identifying the sample and sample size

To determine an acceptable sample size for qualitative research, in-depth information is sought rather than a high level of accuracy reflecting the whole populations studied, and therefore small samples are adequate (Farquhar, 2012; Jennings, 2010). Cases should be chosen that will most likely illuminate the research questions and offer sufficient access (Layder, 2013; Yin, 2014). Researchers' limitations, such as funding and time, are considerations that influence the size of the sample and time for the study. A sample size is sufficient when saturation of information is reached, or when no new insights are gained (Jennings, 2010; Layder, 2013). Convenience or purposive sampling is when the researcher determines sufficiency where "the cut-off is not

predetermined, but emerges as an outcome of the research process and concurrent empirical material interpretation” (Jennings, 2010, p. 149). Initially five trails were selected for this research. These were the *Munda Biddi Trail* from Australia, *Nga Haerenga* trails in New Zealand, *Appalachian Trail* and *Arizona Trail* from the USA and the Scottish *West Highland Way*. During the early stages of data collection, it became obvious that the trail models from Australia and the USA applied similar models and had cultural similarities in regards to funding and volunteering. International trail experts, including presenters at the *International Trails Symposium* in the USA in 2013, and the *World Trails Conference* in South Korea in 2014, suggested varying models and trails throughout the world which would provide good coverage of potential options and to broaden the sample. On that advice, trails from other continents and countries, such as Europe, Africa and Asia were included. The additional trails were the *Lechweg* from Germany and Austria, *E-Paths* from Europe, *Jeju Olle Trail* from South Korea and the *Rim of Africa Trail* from South Africa. The initial sample size of five was extended to nine and meant the inclusion of four further countries, plus cross European trails. The *Pacific Crest Trail* was specifically recommended for its sustainable financial management and therefore included despite its similarities with the USA trail model. For each trail at least one trail manager was interviewed. While there is no way of knowing if saturation of data was achieved, the best attempt was made within existing time and resources. Ten trails were investigated across the world, which are described in the Chapter Four Study Sites, including the reasons for their inclusions.

3.2.6 Limitations of qualitative research methodology

Qualitative research generally investigates a small number of cases in-depth and is largely limited to input from few participants. It can therefore not assume to represent the wider population and should be considered an in-depth snapshot, as described by Jennings (2010). She further limits qualitative research as being subjective as it relies on texts and discourses of participants. Case study research cannot generally lead to generalisations of findings, but it offers a much richer and deeper understanding of key elements and processes that cannot come from larger quantitative studies (Creswell, 2009). Ritchie, Lewis, Ormston and Morell (2014) suggest that it could be possible to generalise from qualitative data in some circumstances, depending on how representative the sample is, whether it is suitable to be inferred onto other settings, and its reliability and validity. To minimise the limitations of this study, and seek to reduce the restriction for generalisations suggested by Ritchie et al. (2014), study sites were chosen across the world to include as many approaches to trail management as possible, after the literature review identified similarities amongst countries and even continents. Subjective

interviews were complimented by the researcher's observations and factual information through financial and other reports. This research was intended to be inductive.

3.3 Study population

The research sample provides answers to the questions and is therefore governed by the extent to which it yields information and contributes to explain the phenomena (Layder, 2013). For an exemplary case study Yin (2014) notes that the chosen cases should be some of the best compared against the selection criteria. He further suggests the following points: Cases may be of general public interest and have underlying issues of national importance in theoretical, policy or practical terms. There must be a sense of completeness within the set boundaries and not have ended because of resource exhaustion. The evidence should be convincing, having sufficiently penetrated the issue. Acknowledging alternative perspectives and examining the evidence from a different perspective will increase the exemplary status (Yin, 2014).

Most trails in this research were managed through a partnership model, some through a public and NGO and others through public and public partnerships. Therefore, there were usually at least two partners or trail managers of some kind per trail, but it was not always possible to interview all partners due to time and travel restrictions, as well as their availability. Both the NGO and government representative parties were requested to participate in this research, but mostly only one partner was available. The chair and president for each NGO, and government representative trail managers were approached, aiming for participants in key management positions. A total of eleven interviews were completed for eight trails, including seven NGOs and four government representatives. The information from the other two, the *Jeju Olle Trail* and the *E-Paths*, was sought through other means, such as their websites, observation from a guided tour, and hiking on each trail.

3.4 Research procedure

The literature review for trails revealed that little academic information is readily available, and that limited research has previously been undertaken about trail business management models. It was expected that it would be difficult to gather well formulated information about trail components and their systemic interconnection, as the information obtained for the background of trails was primarily drawn from their individual websites. Un-refereed reports, popular publications and websites are generally considered as unchecked data. This presents reliability issues that are unavoidable in research where better data is not available. Buckley (2010) contended that finding reliable data about conservation tourism internationally was difficult, in which case he stated that on-site approaches remain the most reliable means of

analyses. Thus to limit the use of unchecked data, and finding the most reliable data possible, it was considered best to visit the actual trail locations where possible and gather information on-site from key personnel involved in their management. This also provided opportunity for direct observations and the experience of the trail from a user perspective, which had initially been a key contributor in the selection of sites through the user informed National Geographic list of best trails (n.d.). For the observations the researcher spent a few days hiking half of the trails to gather primarily photographic data directly and experience the quality and signs of management. For the sites not visited in person, the *Nga Haerenga*, *Pacific Crest Trail*, *Lechweg*, *E-Paths* and the *Rim of Africa Trail*, interviews, websites and other written information was used where available. Interviews with trail managers, site visits and review of written documentation was used to identify the elements of each trail management model and their key success factors for financial sustainability. Comparative case study analysis drew out the components of trail management that worked well, considering the local political, social and natural environment, and the type of trail.

3.5 Data collection methods

Methods are the specific tools of data collection and analysis that a researcher will use to gather information (Jennings, 2010). Data was collected in the form of empirical materials, as referred to “information that is gathered within the interpretative social sciences paradigm” (Jennings, 2010, p. 34). Methods of empirical material collection include in-depth interviews, document and visual data review, observations and appreciative inquiry (Jennings, 2010; Yin, 2014). The data collection source through interviews was from individuals about the unit of analysis, as discussed by Yin (2014), which in this research was their trail. The participants themselves were not the focus of the research.

Semi-structured interviews can be considered conversations that follow the thinking process of the participant and researcher, but are prompted by the researcher’s questions, adding structure to the interview (Creswell, 2009). Creswell notes that the lack of constraint permits the participant to move outside the researcher’s a priori reasoning and determine multiple realities or viewpoints. He considers this method useful for complex issues where the researcher can clarify and examine matters more closely as they arise. Face-to-face interviews are considered more reliable (Buckley, 2011). This research was therefore through face-to-face interviews, or phone or email where unable to arrange a direct meeting. This included collection of information about each trail. Supplementary data collection was applied by other means (Brinkley, 2013; Moore, Weiler, et al., 2009) and included trail websites, brochures, written

strategic plans, annual reports, business plans, policy and procedures, marketing plans, sponsorship packages, partner agreements, as well as photos and observations from the trails themselves.

To gain an understanding of the key elements that might comprise a financially sustainable model based on best practice trail management, the researcher initially visited the *Arizona Trail*, *Appalachian Trail* and *West Highland Way*, which included face-to-face interviews and spending a few days hiking each trail. The *Munda Biddi Trail* NGO representative interview was another face-to-face interview, with the author of this study being the government partner and therefore not being interviewed. Other interviews were conducted either via phone or Skype, or through email correspondence. The researcher attended the *World Trails Conference* in South Korea twice during the data collection period and was able to experience the *Jeju Olle Trail* at those times through guided tours and independent hiking. Information about this trail came from the tour and personal observations, limited website contents and the *World Trails Conference* book (World Trails Network, 2014). Similarly the *E-Paths* information came from hiking on it at the *WHW*, the same conference book, websites and annual reports. Written documentation was provided by participants during or after the interview process, and some were accessed through the individual trail website, such as annual reports. The observation method incorporated visual inspection of trail infrastructure and promotional materials, while experiencing it from a hiker's perspective. The found quality of trails supported the assessment of the initial assumption – that the National Geographic listing was representative of being well managed and financially sustainable.

3.6 Research instrument

The components of trail management, which provided an overview of aspects of trail business management, were used as a guide for the interviews. Where interviews were not possible questions were emailed to participants. Using key criteria for the basis of the qualitative research instrument was also the case for Eagles (2009) and Brinkley (2013). The line of questioning was partially based on similar qualitative research undertaken by Brinkley (2013) investigating possible models for an NGO trail partner, as evidenced in her findings and criteria. Moore et al. (2009) based the qualitative questions around key features of partnerships, including partners, successes and failures. Each feature category had several sub questions, the same style was applied in this research.

The questions drew out information on structures and systems, including questions such as “How is maintenance being managed?”, “What are the income sources for the trail?” and “How

are the roles split between the partners?” Other questions sought background information about the country, including their legal system and protected areas approach, cultural and social limitations or contributions, such as volunteering, and tourism marketing, promotion and readiness. Open ended questions allowed for in-depth information and opportunity for other areas of interest to arise that had not initially been considered, but were pertinent to understand a particular trail model. The questions are attached in Appendix 1. In addition to interviews, data was sought through written documentations and observation to complement the information about each trail and provide holistic analysis. Mostly this consisted of annual, strategic and other reports, website information, brochures and guide books.

3.7 Data analysis

There are three aspects of qualitative data interpretation and reconstruction: data reduction, display and drawing of conclusion and verifications (Allen et al., 2014; Jennings, 2010). Data reduction includes selecting, coding and categorising. Display is the way of presenting the data in an organised and condensed form, including quotes, graphs or charts. These can be interpreted and reconstructed through use of memos, coding, content patterns and constant comparative analysis. Jennings (2010) suggests that the act of constant comparison of materials against other materials is building qualitative theory, which is the third aspect of interpretation. Comparison requires the generation of categories that are likely to be amended throughout the research process as theories emerge (Silverman, 2011). Memos serve to assist the researcher throughout the interpretation phase and these can be oral or written recordings of interviews, observations and reflections (Jennings, 2010). Findings of the qualitative nature within the interpretative paradigm are interspersed with quotes, as well as visual representations of the people or text studies, according to Jennings (2010). Interviews, direct observations and written documents were the three data sources for this study.

The data was analysed with the assistance of an Excel spreadsheet, which matched the trail factor criteria. The trail factors were considered the coding for the purpose of data interpretation. Codes can be category labels and be attached to words, phrases, sentences, or whole paragraphs (Jennings, 2010). Through constant comparative analysis like-coded data was identified and verified through their repetitive presence and by the process of theoretical sampling driven by emerging materials. The factors external and internal to trail management were found to be the components of trail management through comparative analysis and repetitive references by participants. These components could then be incorporated into the different governance approaches to trail management.

The research results for each trail were considered as a model within itself initially, split and entered under each trail component section of the spreadsheet. Once all data was entered direct comparison between the trail models was possible. The combination of trail components, and the systems used to manage the trail as a whole were then drawn from the spreadsheet. As this is qualitative research, participants' responses and emerging concepts determined the codes and format of the analysis. The codes suggested in this proposal provided categories for comparisons. Any emerging themes were considered and additional trail components added, in particular the broader political setting. Direct quotes and photos provide depth and richness to the research report. Limited trail management model specific literature was identified, and this meant that a process of comparing and checking data accuracy of analysis and findings with other research was not possible to do.

3.8 Ethical standards

Research ethics refers to an accepted code of conduct and social norms (Allen et al., 2014). Three main areas of the research process subject to ethical considerations are accessing participants, data collection and report findings (Allen et al., 2014; Jennings, 2010). Jennings (2010) notes that gaining participants' consent, avoidance of wrong, and imposition, as well as fairness and confidentiality, are essential to manage those three areas of concern. Typical ethical concerns include personal disclosures, authenticity and credibility of the report, the role of the researchers in cross-cultural context, and issues of personal privacy. Research generally involves data collection from people, which makes it important to protect participants, promote the integrity of research, and guard against misconduct and impropriety that might reflect on their organisations (Allen et al., 2014; Creswell, 2009; Farquhar, 2012). Creswell (2009) suggests that ethical issues can arise if there is a power imbalance between the researcher and the participant and that this would be reduced if the relationship was reciprocal and both sides benefited from the research. "For researchers, being ethical means knowing that they can live with themselves because they have acted both morally and professionally throughout the research process" (Jennings, 2010, p. 116).

Particular ethical areas of concern for the interpretative social science paradigm, as applied in this research, include face-to-face interactions, faithfully representing multiple, constructed, and often conflicting realities, and privacy and anonymity while using direct quotes and specific setting (Jennings, 2010). Participants need to have a clear understanding of the purpose of the study to avoid deception (Allen et al., 2014; Jennings, 2010; Layder, 2013). The informed consent form that participants signed prior to interviews taking place, stated the purpose of the research

and outlined the participants' confidentiality, right of withdrawal, complaint process and consent to participate. The researcher is responsible for respecting participants and their sites for research, including time and space (Jennings, 2010).

Standards or codes of ethics are set out by Institutional Review Boards who approved the research plan. For this research Edith Cowan University sets ethics for the involvement of human participation under the National Statement on Ethical Conduct in Human Research guidelines which were adhered to for this research. Approval was obtained from the University's Human Research Ethics Committee for this research with particular reference to the following points:

- Participants knowingly engaged in this research and provided written consent prior to commencement. Everyone was given opportunities to raise questions and withdraw at any time. This research included participants from other countries, but all were fluent in the English language to understand and consent to participation, as outlined in the Consent Form.
- All data collected from interviews was protected and kept confidential. Anonymity was ensured throughout the research, including interviews, transcriptions, audio recordings and all documentation, by using a coding system and aliases in the report.
- All data collected during this research was kept in locked storage only accessible by the prime researcher. Digital recordings are stored on the researcher's computer and external hard drive which require a password for access. During travel data was stored on the password protected computer and emailed to the researcher's password protected account as backup. After the research has been completed the data will be stored for the minimum required time and then destroyed.

3.9 Reliability and validity

Reliability and validity must be addressed by the researcher with regards to the research process and findings (Jennings, 2010). For qualitative research this requires empirical material collection and interpretation or (re)construction to be credible, trustworthy and authentic. Creswell (2009) adds that qualitative validity requires the researcher to check for the accuracy of findings through the use of certain procedures. He suggests that one of these strategies is to document the procedures of their case studies, ensuring transparency and repeatability. The research procedures were documented in the research proposal, which was applied during data collection and analysis and is documented in this report. Checking transcript accuracy is another strategy (Creswell, 2009; Yin, 2014). For this research transcripts of interviews were forwarded

to the interviewees to confirm accuracy and reliability of the collected data and no concerns were raised.

Validity is one of the strengths of qualitative research as it is based on the findings accuracy from the perspective of the researcher, participant or the reader (Creswell, 2009). Validity strategies are recommended which further enhance the researcher's ability to assess accuracy of the findings. Triangulation of data is considered a strategy for ensuring validation, as it draws on various sources of data in the research process (Creswell, 2009; Farquhar, 2012; Yin, 2014). This research drew data from three types of sources: interviews, written documentation and direct observations. It was found that the results from the different sources were complementary to each other and no discrepancies were identified. The selected methods constantly provided the same outcomes which suggests reliability (Farquhar, 2012; Jennings, 2010). Member checking is another strategy described by Creswell (2009) where the informants check the interpretation of the data throughout the analysis process. While this did not occur on an individual level, at different stages of the study the researcher was invited to present findings to date at international conferences. The audiences, including peer trail managers, researchers and also some of the interviewees, were supportive of the information presented. Spending a prolonged time in the field is a third validity strategy, which ensures the researcher's in-depth understanding of the phenomenon that lends credibility (Creswell, 2009). The researcher is a trail manager herself with an in-depth understanding of all aspects of trail management. In addition, she visited several trails internationally and spoke to many trail managers during the study period to gain an extensive understanding of trails in other countries and continents.

3.10 Limitations of this study

Only countries with information available in English or German were included, as language barriers would have limited the access to the depth of information required for this research. Limited English information was available for the *Jeju Olle Trail* in South Korea. Additionally, the amount of time and resources available for this thesis limited the extent of the research, including the number of trail models visited and analysed. Some trail models were assessed remotely due to these limitations.

3.11 Transferability of results

It is generally assumed that qualitative research seeks particular descriptions and themes developed in context of a specific site, rather than generalisation (Creswell, 2009). Some exemptions to this generalizability include multiple case study inquiry. Yin (2014) suggests qualitative case study results are generalizable to theoretical propositions, one example is

through cross-case conclusions. “The generalisation occurs when qualitative researchers study additional cases and generalise findings to the new cases. ...same as the replication logic used in experimental research” (Creswell, 2009, p. 193). The purpose of this thesis was theory development based on comparative case study analysis. Further research in the area of trail business management models is needed to ascertain transferability of the results of this study.















3.12 Chapter summary

In summary, this chapter described the qualitative research methodology through multiple case study comparisons of ten trails from seven different countries and five continents, plus one cross-Europe trail system. The inductive approach embedded in the interpretative paradigm to develop explanations of phenomena was consistent with the lack of well-developed theory for the explorative nature, and to develop theory. This research investigated assumed representative trail models from around the world. On-site interviews were the preferred data collection method supplemented by written documentation and the researcher’s observation as a trail user. When this was not possible, interviews were held via phone, Skype or email. Eagles’ (2009) governance model for protected areas provided structure for the assessment of trail management components, which provided the basis for the management model options. The three elements identified by Eagles for investigating and evaluating of governance models - resource ownership, income source and management body – are provided in the following study site chapter for each trail, amongst other background information.

Chapter Four – Study sites

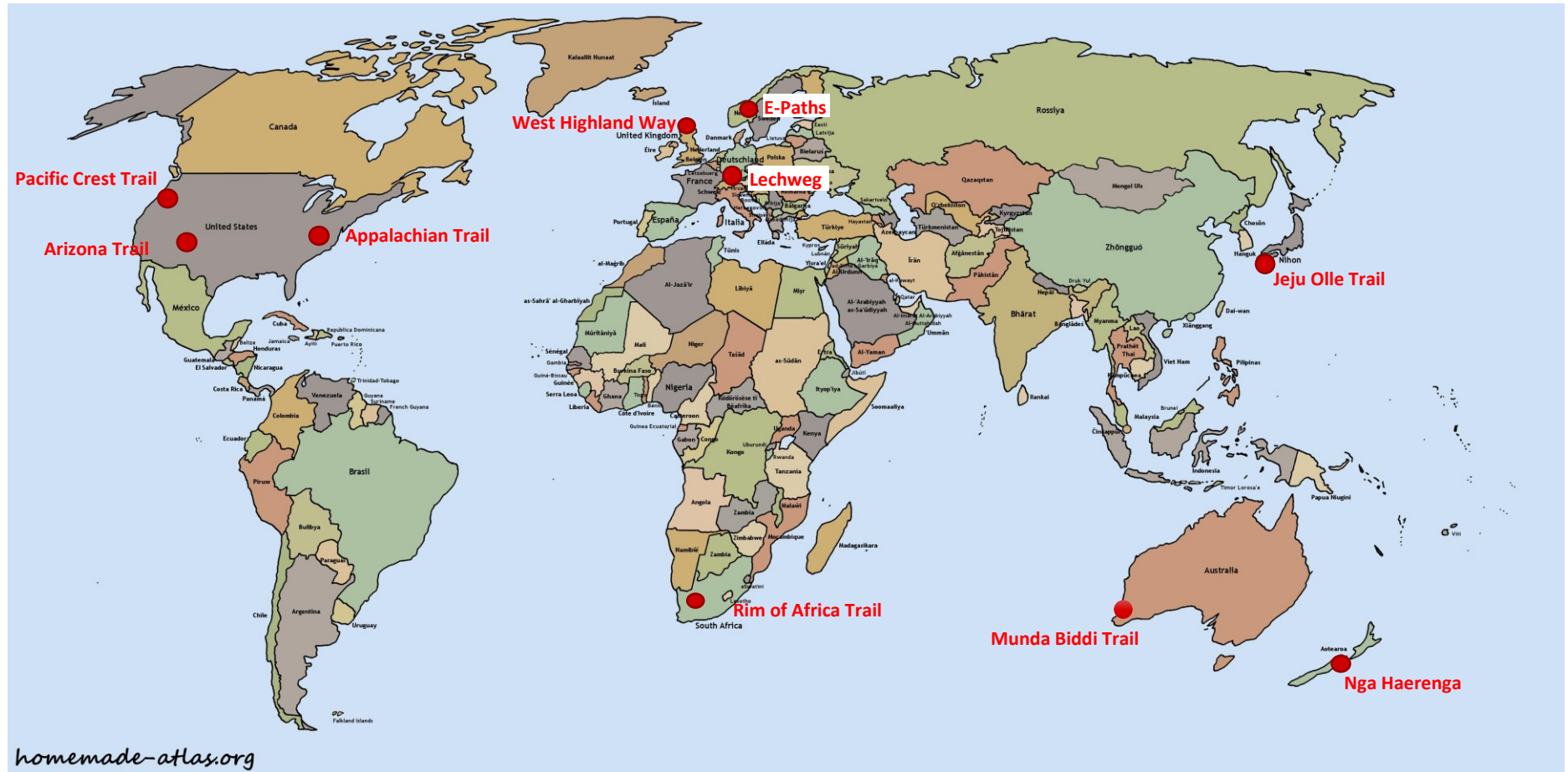
This qualitative research is based on ten trails from across the world as case studies. This chapter outlines the selection criteria and provides the background for each trail. Trails included as case studies in this research were required to be long distance and traverse at least one protected area. The National Geographic ‘Best Trails’ (National Geographic, n.d.) were considered as sites for selection, in combination with practical considerations about access as part of a study tour. National Geographic recognise and promote a range of top world trails, including Epic and Best Hikes. The assumption was that a successful trail requires it to be managed well and may therefore be more likely to have a financially sustainable management model. Other trails were added later to provide a broader spectrum of possible management options. Inclusions were based on the suggestions of international trail experts identified during the earlier parts of the research.

Table 7: Overview of study sites

	Trail	User	Length km	Type
Australia	Munda Biddi Trail		1062	Linear
New Zealand	Nga Haerenga		2500	Trail network
United States	Appalachian Trail		3500	Linear
United States	Arizona Trail	  	1287	Linear
United States	Pacific Crest Trail	 	4265	Linear
United Kingdom	West Highland Way	 	154	Linear
Germany/Austria	Lechweg		125	Linear
South Africa	Rim of Africa Trail		600	Linear
Europe	E-Path		55,000	Trail network
South Korea	Jeju Olle Trail		425	Linear

To achieve diverse and internationally reflective input of trail management models this research crossed several international boundaries and continents, see Figure 4. Often similar partnerships and management models were applied within the same country, or even continent, as they are in Western Australia for the *Bibbulmun Track* and the *Munda Biddi Trail*. It was expected that essentially two types of trail management models would be identified, the government provided version with community contribution that originated in the USA, and the more businesslike approach of European trails.

Figure 4: World map with overview of trails



Therefore, an international cross section of the two types was reflected in the chosen trails. In addition a recommended trail from Africa was included to seek models from different continents. Two other trails, one from Asia and a European trail network, were included for diversity reasons, but no interviews with trail managers took place. Identifying relevant and representative case studies for tourism research, and being able to access their data, was a challenge for Buckley (2011) as well, who heavily relied on his extensive travel, as well as input from trusted people. Only six of the ten trails were visited by the author due to resource and time restrictions. An overview of the case studies is provided in Table 7. The following information about each trail was taken from their websites unless otherwise referenced.

4.1 Australia - *Munda Biddi Trail*

Munda Biddi means 'path through the forest' in the local Aboriginal Noongar language. This primarily off-road cycling experience in the south west of Western Australia traverses 1062 kilometres from Mundaring, near Perth, to Albany on the south coast. It is currently considered the longest continuous off-road cycling trail in the world. There are twelve camp sites with shelter, toilet, tent sites and water, such as the one shown in Figure 6. The trail was the result of a community initiative to meet the arising demand by mountain bikers, and to move them off hiking trails, in particular the *Bibbulmun Track* (Newsome, Stender, Annear, & Smith, 2016). DPaW took on the responsibility for development of the *Munda Biddi Trail* as most of the alignment was on its land.

This trail is managed through a partnership between the Department of Parks and Wildlife (DPaW), a state government agency, and a community partner, the Munda Biddi Trail Foundation. DPaW contributes some funding to the Foundation to assist with trail maintenance and promotion, but the community partner struggles to survive. Additional income streams were explored, including corporate sponsorships, such as mining companies, different membership models, merchandise sales and events. Just under 30,000 visitors were recorded in 2011 when half of the trail was completed (DEC, 2011).

The trail crosses several International IUCN protected areas, primarily national parks, category II. They include Beelu, Helena, Korung, Midgegooroo, Wellington, Greater Dordagup, Gloucester, Greater Hawk, Boorara-Gardner, Shannon, Mount Frankland and Mount Frankland South, Walpole-Nornalup and Mount Roe. Other protected areas include Wungong Regional Park, Jarrahdale State Forest, Monadnocks Conservation Reserve and Lane Pool Reserve (Protected Planet, n.d.). The *Munda Biddi Trail* was the initial motivation for this research. It was in the final stages of completion at the commencement of this research. (Munda Biddi Trail, n.d.)

Figure 5: Munda Biddi Trail map



Figure 6: Munda Biddi Trail shelter Jinung Beigabup



(Author's collection)

4.2 New Zealand – Nga Haerenga

The *Nga Haerenga*, a network of 23 cycle trails across the country, offer subtropical fern forests of the far North Island, along historic military and old coach roads, past wild beaches, rainforests and wetlands with lake and mountain views.

Figure 7: Nga Haerenga



New Zealand has a long history of tramping and outdoor recreation, with the first recreational tracks and huts built for tourists in the 1890s (Barnett & Maclean, 2014). In February 2009 the idea was to build a network of cycle trails that would not only provide a healthy and enjoyable way for local and international visitors to see the country, but would also generate economic, social and environmental benefits for our communities. The government invested US\$45 million with an additional co-funding through local councils of around US\$26 million. The Ministry for Business, Innovation and Employment sought to address high unemployment by creating economic opportunities through cycling trails (Angus & Associates, 2013). The aim was to create 300 to 500 jobs during construction and for a sustainable industry to develop around the trail network once established. According to Angus and Associates (2013), this high level national cross-government alignment of aims and objectives resulted in the development of the new cycle trails within five years, about 2500 kilometres.

Even though these trails were funded through a national government initiative, they are independently managed and are individual in their design, environment user, group and length,

several long enough to be included in this research. The *Queenstown Trail* is one example of the *Nga Haerenga*, shown here with a suspension bridge typical for trails (Figure 8).

The tenure of trails in the network includes a wide range of protected areas. For example the Queen Charlotte Track crosses the following protected areas: Bay Of Many Coves Scenic Reserve (IUCN III), Ship Cove Scenic Reserve (IUCN IV), Kumutoto Scenic Reserve (IUCN III), Rocks Scenic Reserve (IUCN III), Torea Scenic Reserve (IUCN III) and the Iwituaroa Scenic Reserve (IUCN III) (Protected Planet, n.d.).

The national level development and specific economic purpose was of particular interest as a trail development and management model. It was included in this study as it was likely to provide a contrast to the other trails with a recreational focus, as well as offer new approaches to different management models. (NZ Cycle Trails, n.d.)

Figure 8: *Nga Haerenga* Queenstown Trail



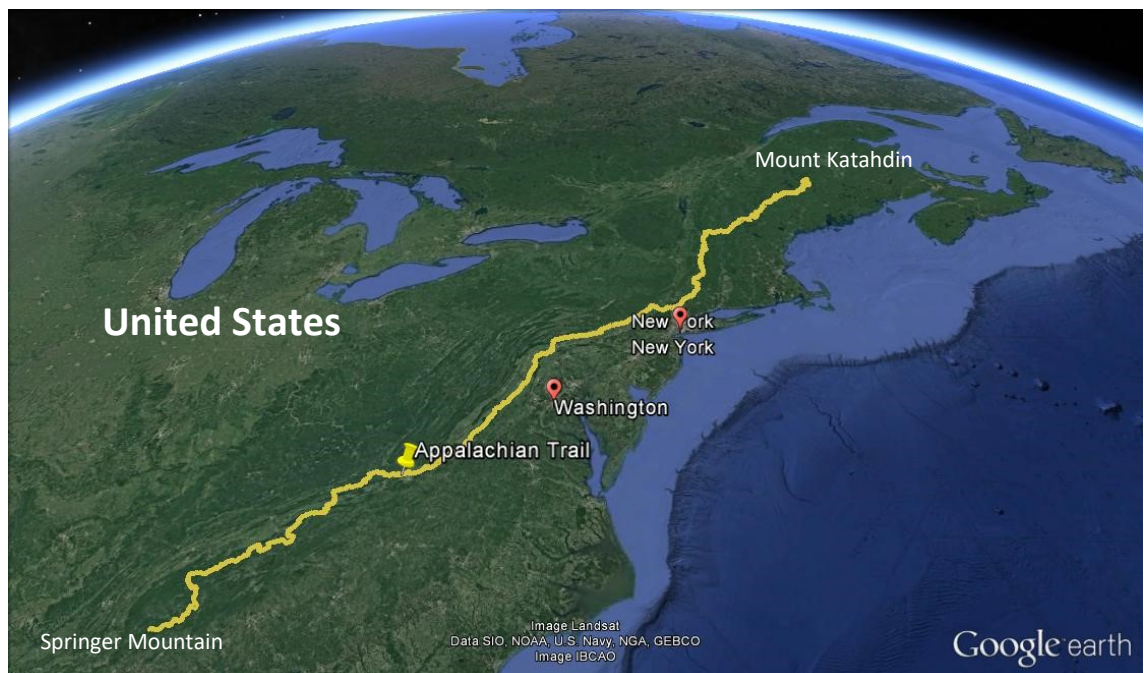
(<http://queenstowntrail.co.nz>)

4.3 USA – *Appalachian Trail*

The Appalachian Trail passes through fourteen States along the crests and valleys of the Appalachian mountain range from the southern terminus at Springer Mountain, Georgia, to the trail's northern terminus at Katahdin, Maine. Along its 3500 kilometres (2190 miles) there are more than 270 rustic shelters.

The *Appalachian Trail* was conceived in 1921 for the purpose of recreation and appreciation and protection of nature, which made it one of the first specifically formed for recreation. Benton MacKaye, a landscape architect, considered urban and industrial life harmful to people. Admiralty lawyer Myron Avery was instrumental in implementing MacKaye's vision. They were cordial at first, but by the mid-1930s, as Avery took charge of the project, they disagreed over fundamental issues and visions of what the trail should be. Avery was more interested in hiking and in connecting the sections of the trail, while MacKaye was more interested in the trail's role in promoting wilderness. MacKaye disassociated himself in 1935 to found the Wilderness Society. The *Appalachian Trail* was completed in 1937 as a 'primitive footpath', which means, amongst other things, that no commercial operations are permitted. In 2016 there were about three million visitors.

Figure 9: *Appalachian Trail* map



The *National Trails System Act 1968* gave the Secretary of the Interior primary responsibility for administration of the *Appalachian Trail* through the NPS. Through a unique partnership between the public and private sector, the NPS designated the management and maintenance of the trail to the Appalachian Trail Conservancy (ATC). The NPS retains responsibility for environmental compliance, law enforcement, permits, final corridor and land purchase decisions and oversight of the cooperative management system. Ultimately the NPS is responsible for the lands within the *Appalachian Trail* corridor. The ATC, established in 1925, is supported by 31 independent

clubs who undertake trail maintenance and other volunteer based programs, such as the Potomac Club, which participated in this research.

The *Appalachian Trail* is a unit of the National Parks System (IUCN V – protected landscape) which has its own protected green corridor of about 250,000 acres. Specifically it crosses six national parks, eight national forests and 75 state parks. Today, the Appalachians mountain range hold one of the world's richest assemblages of temperate zone species. In fact, the *Appalachian National Scenic Trail* may contain the greatest biodiversity of any units of the NPS.

The *Appalachian Trail* was listed in the National Geographic Top 10 Hikes of the USA (National Geographic, n.d.). It was the model for the West Australian *Bibbulmun Track* and *Munda Biddi Trail*. It is one of the longest trails in the world and one of the most heavily hiked in the USA (Timothy & Boyd, 2015). According to Timothy and Boyd (2015) it is one of the three trails that make up the 'triple crown' of long distance hiking in the USA, the others being the *Continental Divide Trail* and the *Pacific Crest Trail*. Its well-known status and strength of its governance body have led to the availability of extensive data useful for this research, including information about legislative protection and governance structures. (ATC, n.d.)

Figure 10: *Appalachian Trail* shelter in Shenandoah National Park

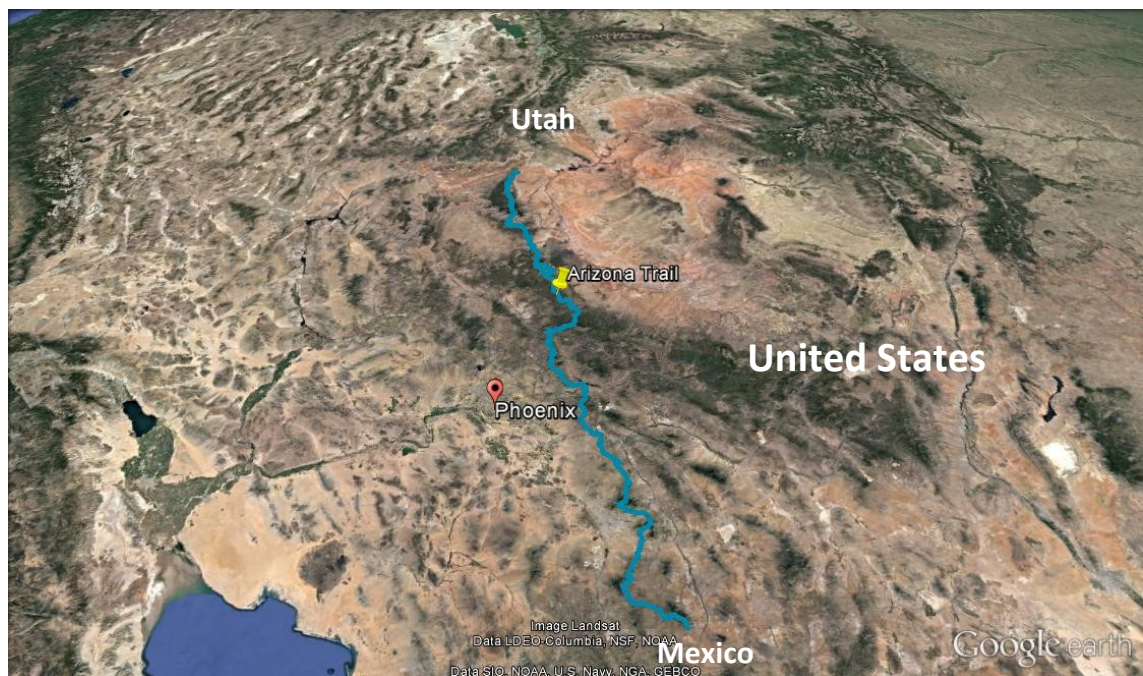


(Author's collection)

4.4 USA – Arizona Trail

The *Arizona Trail* traverses 1287 kilometres (800 miles) from the borders of Utah in the north to Mexico in the south across the state of Arizona. The many different features on and near the *Arizona Trail* allow it to showcase many of the state's greatest attributes, and contributed to its congressional and presidential designation as a National Scenic Trail under the *National Trails System Act 1968*. Notable features include geologic wonders such as the Grand Canyon National Park, which was visited by the author (Figure 12), the Colossal Cave and the White Canyon area. It serves a wide variety of non-motorised users including hikers, equestrians, mountain bikers, trail runners, nature enthusiasts, cross-country skiers, snowshoers, and mule and llama packers.

Figure 11: Arizona Trail map



A school teacher from Flagstaff, Dale Shewalter, envisioned a cross-state trail in the 1970s. In 1985 he explored a potential route walking from Nogales, on the Mexican border, to the Utah state line. In the late 1980s, Dale was hired by the Kaibab National Forest to be the first paid coordinator for the *Arizona Trail*. The stakeholders began establishing segments of the *Arizona Trail*, with the Arizona State Parks assuming the lead role. The Arizona Trail Association was formed in 1994, which now forms the management body in partnership with the FS. Visitor numbers are fairly low, with seasonal limitations due to heat and availability of water.

National Park Service managed lands traversed by the trail are the Grand Canyon National Park, Saguaro National Park and the Coronado National Memorial. In addition it passes through four national forests, the Kaibab, Coronado, Coconino and Tonto, which make up 73 percent of the

trail corridor tenure. It crosses several counties that overlay private, state and federal lands, with a major component across lands managed by the Arizona State Land Department.

The *International Trails Symposium* was held in Arizona in 2013, where the author presented a workshop about this study and spent several days hiking on the recently completed *Arizona Trail*. It therefore provided an opportunity to investigate this show-cased trail and include it in this research. (Arizona Trail Association, n.d.)

Figure 12: Author at Grand Canyon on Arizona Trail



(Author's collection)

4.5 USA – Pacific Crest Trail

The *Pacific Crest Trail* traverses 4265 kilometres (2650 miles) from southern California on the Mexican border, past the high crests of the Sierra and Cascades mountain ranges in California, through Oregon and Washington until it reaches the Canadian border. There are no overnight shelters provided and hikers are required to stay in their tents (Figure 14).

A border to border trail for hikers and equestrians was first suggested in 1926. By 1932 Clinton C. Clarke of Pasadena, California, started promoting the idea, which was followed by the first meeting of the Pacific Crest Trail System Conference in 1935. It was designated as one of the first National Scenic Trails in 1968 and officially completed in 1993.

Figure 13: Pacific Crest Trail



Figure 14: Pacific Crest Trail accommodation option



(Pacific Crest Trail Association, n.d.)

This trail is managed similarly to the previous USA trails, through a partnership between the FS and the Pacific Crest Trail Association (PCTA). There are approximately 15 full-time and two part-time staff employed by the PCTA, such as the Executive Director and Corporate Executive Officer, Development Director, Trail Operations Director, Finance and Human Resources Director, Annual Fund Manager for memberships, the Trail Operations Manager for volunteer programs, and five regional representatives who manage the trail at a local level.

It crosses 26 National Forests, eight National Parks, five State Parks, three National Monuments, and includes land managed by the Bureau of Land Management, Scenic and State Recreation Areas, County Parks and Indian Lands. There are ten congressional districts along the trail in California, four in Oregon and four in Washington. This trail was recommended for inclusion by a trail expert for its successful management, in particular their financial sustainability through private donations and other diverse incomes. (Pacific Crest Trail Association, n.d.)

4.6 United Kingdom – *West Highland Way*

The *West Highland Way (WHW)* is Scotland's first, of the now four, official long distance routes, extending 154 kilometres (96 miles) from Milngavie on the outskirts of Glasgow to the foot of Ben Nevis at Fort William. It passes from the lowlands, across the Highland Boundary Fault Zone and on into the Scottish Highlands. Much of the *WHW* follows ancient and historic routes of communication and makes use of drove roads, military roads and disused railway tracks, as can be seen on Figure 16. All non-motorised trail users are permitted on the *WHW*, but many sections are not suitable to all user groups. (WHW, n.d.)

It is managed through the *WHW* Management Group which is made up of representatives from each government land owner traversed by the trail, such as the National Park Service and local counties. The Management Group sets standards and allocates some broader resources amongst the group members. Each of these is responsible for the maintenance on their land, though those with more resources assist those with less capacity. (Forester, 2010)

This trail is linked to the *Appalachian Trail* through the *International Appalachian Trail*, an organisation that seeks to link trails within the ancient Appalachian Mountains for tourism and cross-boundaries collaboration ("International Appalachian Trails," n.d.). The ancient Appalachian Mountains were formed as part of the Pangea supercontinent, when America, Europe and other continents were one land mass. They are now represented along the east coast of the USA and the west coasts of Europe.

Figure 15: *West Highland Way* map



Figure 16: *West Highland Way*



(Author's collection)

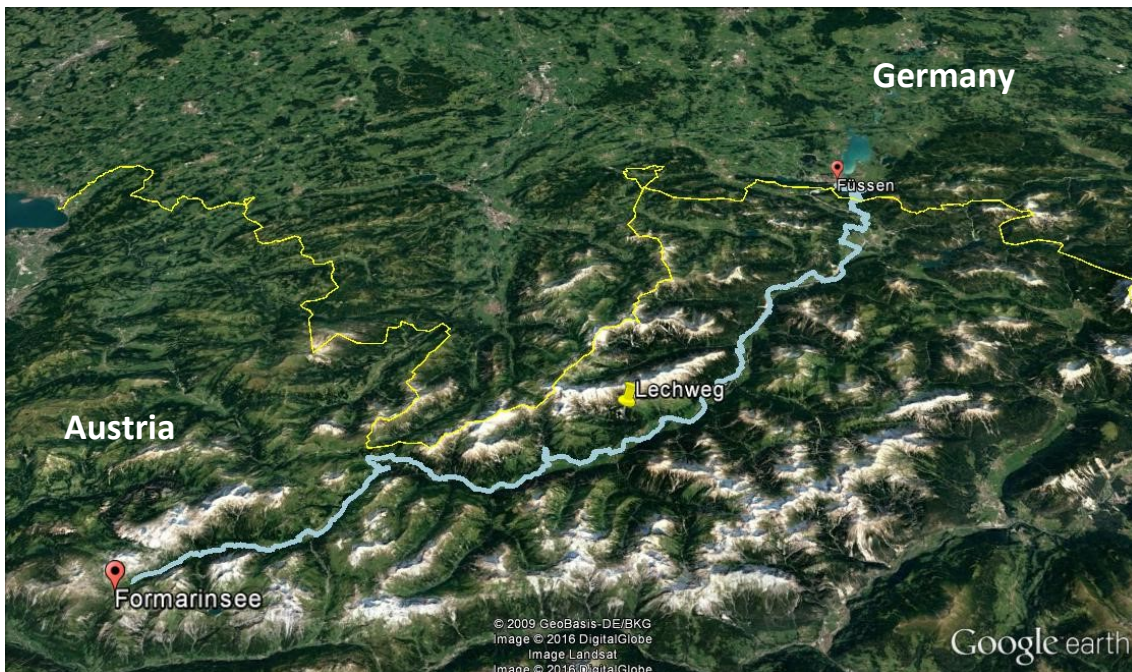
The Loch Lomond and Trossachs National Parks (IUCN V – protected landscapes) contains the southern half of the WHW. Other protected areas include the Ben Nevis Site of Community Importance (Habitats Directive), Glen Coe Site of Community Importance (Habitats Directive), and the Ben Nevis and Glen Coe National Scenic Area (IUCN V) (Protected Planet, n.d.).

The WHW was listed as one of the World's Best Epic Hikes by National Geographic Adventure (National Geographic, n.d.). It was included in this research on that basis, as well as representing Europe and offering a unique legislative perspective in regards to public access provision in a country with primarily privately owned lands.

4.7 Germany – Lechweg

The Lechweg represents the second European trail, crossing the German and Austrian national borders. Along its 125 kilometres the Lechweg follows one of the last wild rivers in Europe, the Lech, from the spring to the falls. The gentle terrain makes this an easy hiking path, and there is a separate cycling trail, the *Lech-Radweg*. Infrastructure consists of Austria's longest foot suspension bridge with a length of 200 metres (Figure 18), as well as more than 60 iconic benches. The spray painted calligraphy design "L" marks the trail every 50 to 250 metres.

Figure 17: Lechweg map



The Director for Tourism Arlberg am Lech, Hubert Schwaerzler, developed the idea of the *Lechweg* after walking the Camino Trail in Spain. Walking, enjoyment of culture and the journey to self-discovery was the proposed experience. He presented the idea in the late 1990s to the

future partners who founded the Verein Werbegemeinschaft Lech-Wege (regional tourism association) to get the project started in spring 2010. The members are now responsible for its management, a collaboration of local governments and tourism organisations. There are some ski resorts within the Lech Valley and the *Lechweg* provides tourism during the off-season.

Figure 18: *Lechweg* suspension bridge



(Lechweg, n.d.)

The Lechweg traverses several protected areas, including the Tiroler Lechtal Nature Park (IUCN V – protected landscapes), Beutte Nature Park Region and the Falkenstein, Alatssee, Faulenbacher und Lechtal Site of Community Importance (Habitats Directive) (Protected Planet, n.d.).

The Deutscher Wanderverband (German hiking association) developed the *Leading Quality Trails* certification program on behalf of the European Ramblers (REA, n.d.). The Lechweg opened in 2012 and was the first to be certified under this Europe wide quality program. It was included in this research for this reason, and on recommendation of the President of the European Ramblers. The strong regional tourism focus was also of interest, which drove its development.

(Lechweg, n.d.)

4.8 South Africa – *Rim of Africa Trail*

The *Rim of Africa Trail*, at over 600 kilometres length, is considered a mountaineering and extreme hiking experience. It is an unmarked and only seasonably open trail that has largely no specified alignment, as can be seen on Figure 20, being primarily walked as part of a guided tour. Only the first of the 12 day sections, which was launched in 2009, is currently permitted without a guide. This limits the visitors, a total of 125 over the last five years. Starting in the Cederberg Wilderness Area, the route follows the crests of the Cape Fold Mountains south to the farming town of Ceres, and then crosses the formidable Hex River Mountains. From there it follows the Langeberg Range east to the Outeniqua Mountains of the Cape Garden Route.

Figure 19: *Rim of Africa Trail* map



The trail started with the vision of an individual in 2004, during his ‘rite of passage’ walking experience, as “a dream to establish a long distance trail that could support people to go walking for extended periods of time as a form of ‘walk about’ and reflection” (Rim of Africa, n.d.). In 2007 Ivan Groenhof met Galeo Saintz and they started to realise Ivan’s dream.

The Rim of Africa Trust, which provides the managing structure, was established in 2013. This NGO is self-funding through business operations, income from the tours, which pays for some staff, plus operational costs. Volunteering makes up additional services and tasks.

Figure 20: Rim of Africa Trail



(Rim of Africa, n.d.)

The tenure is mostly private land or private conservancy, with only ten to twenty percent owned by the government. Protected areas include the Cederberg Provincial Nature Reserve (IUCN 1b – wilderness area), Sederberg Mountain Catchment Area (not reported), Koue Bokkeveld Mountain Catchment Area, Cape Floral Region Protected Areas World Heritage Site, Boosmansbos Wilderness Area and the Marloth Provincial Nature Reserve (IUCN II – national park) (Protected Planet, n.d.). The Rim of Africa Trail offered a different management model, and represented another continent, and it was included in the research for that reason.

(Rim of Africa, n.d.)

4.9 Europe – *Europe Long Distance Paths*

The European *E-Path* are long distance hiking trails which cross at least three European countries. They are designated by the European Ramblers' Association, following a long tradition of pilgrim paths in Europe, and so far twelve have been developed (World Trails Network, 2014).

Each path is a combination of individual trails that have been connected and marked as one long distance trail. They are named '*E*' for European, and are numbered. For example the *E2*, along its 4,850 kilometres, connects Nice in France with Inverness in Scotland, via the Netherlands, Belgium and Luxemburg. The WHW represents the northern section of the *E2*. The twelve *E-Paths* have a combined length of 55,000 kilometres. Their signage connects the trail across country boundaries (Figure 22), representing another form of trail infrastructure.

Figure 21: E-Paths



The European Ramblers Association was founded in 1969 as an umbrella organisation, comprising 59 walking organisations from 33 European countries, plus some outside the European Union (World Trails Network, 2014). Their head office is currently in the Czech Republic, with their official address in Germany, and their president residing in Denmark. The Association is member funded, receiving the occasional grant, and having capacity to act as a business enterprise (ERA, 2013). This allows them to pay a part time staff member, who supports the volunteers. Their objectives include furthering walking, protecting the environment, fostering cross border rights and traditions, and representing the interests of member associations on international organisations such as the European Union and the Council of Europe (ERA, 2013). Attached to the Association is a Foundation, whose purpose is to provide financial support, such as receiving donations, gifts or subsidies from various organisations and other third parties.

The *E-Paths* were included for their unique international trail management and having a member based funding structure. No interviews took place, but the organisational aspects were included in the findings overview tables to provide an additional governance model. (ERA, n.d.)

Figure 22: E-Path 12



(ERA, n.d.)

4.10 South Korea – Jeju Olle Trail

The *Jeju Olle Trail* circumnavigates Jeju Island, which represents the most southern part of South Korea. It was the first major trail developed in South Korea and has led to many more. The trail has 26 routes over a total length of over 425 kilometres and is Korea's most well-known walking pathway (World Trails Network, 2014). 'Olle' "implies a very narrow alley or path from a street to the gate of a house", originating from the old Jeju dialect (World Trails Network, 2014, p. 99). The 'ganse' is the name for a Jeju pony, originating from 'gansedari', meaning lazybones. The ganse, as the symbol of the trail, can be found as markers and on signage along the trail.

The trail was the vision of Suh Myung-sook who hiked the Camino de Santiago trail in Spain and wanted to share this experience in her home country. The purpose for the trail was to "present travellers with true relaxation, happiness, in-depth communication, and healing through the aesthetic of slowness" (World Trails Network, 2014, p. 100). On her return, Suh started the Jeju Olle Foundation to commence development and now manage the trail. The first route opened in 2007 and it was completed in 2013 (World Trails Network, 2014).

Figure 23: Jeju Olle Trail map

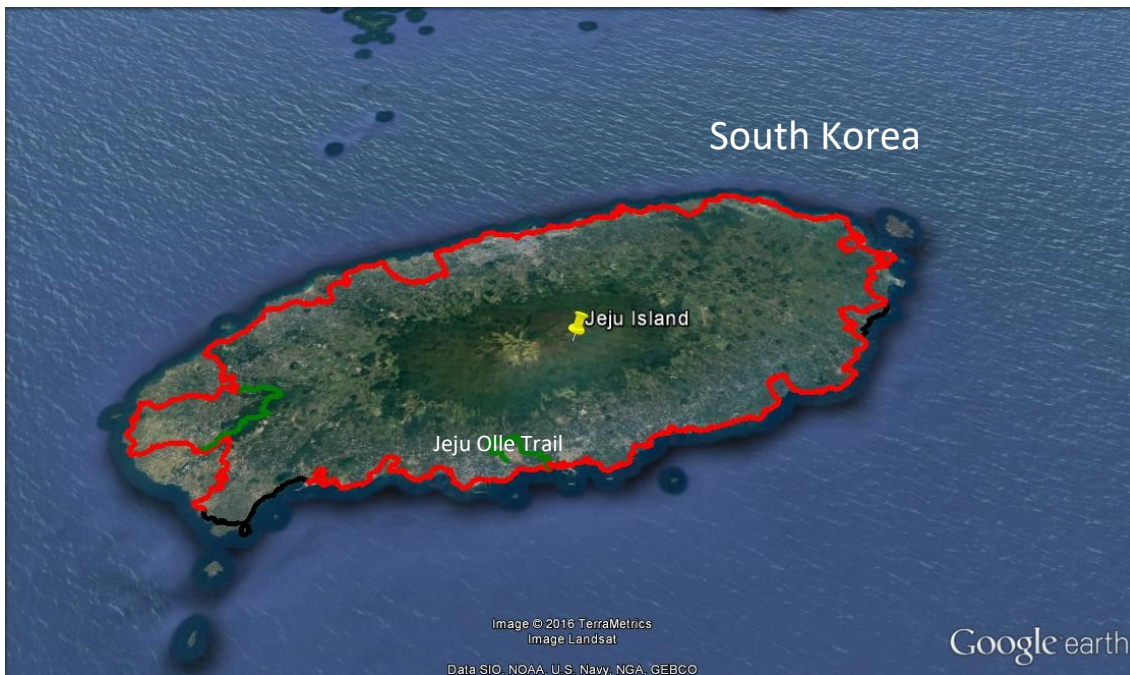


Figure 24: Author with President of Jeju Olle Trail Suh Myung-sook



(Jeju Olle Foundation, n.d.-a)

The Jeju Island was nominated as one of the New Seven Wonders of Nature in 2011, contains the World Heritage Sites Jeju Volcanic Island and Lava Tubes, Manjang Cave UNESCO Geopark and is a Biosphere Reserve ("Atlas of Wonders," n.d.).

The Jeju Olle Foundation initiated and hosted the World Trails Conference from 2010 for five consecutive years (Jeju Olle Foundation, n.d.-b), two of which were attended by the author. Similarly to the *E-Paths*, the *Jeju Olle Trail* was included without interview to provide a different governance model provided by volunteers only. It extends the geographic coverage of this study into Asia, which was the centre of trails during their hosting of the World Trails Conferences. The Jeju Olle Trail Foundation was also the initiator of the Friendship Trails. Figure 24 shows their President Suh Myung-sook with the author during the Friendship Trail celebration between the Australian *Bibbulmun Track* and the *Jeju Olle Trail* in Jeju.

4.11 Chapter conclusion

This chapter provided the background to the research sites, including their specific points of interest and therefore their reason for inclusion. This included trails with similar governance models, such as the government and NGO partnership in Australia and the USA, or the cooperative government model in Europe. NGO models were showcased from Africa and Asia, whereas New Zealand's trails utilised a variety of governance models within the same trail network. Each trail was positioned within the context of its country, the natural environment, governance, history and purpose. Unique models of operation were presented, as far as publicly available, to protect participants' confidentiality. For this reason the in-depth interview results could not be presented for each trail, but are covered under the trail categories in the research findings.

Chapter Five – Research findings

This chapter presents the findings of the ten case studies from around the world. According to Yin (2014) there are three formats for presenting multiple case study reports. Firstly it can be just a single case report. Secondly the reporting format for multiple case studies can consist of several single case studies, usually presented as separate sections, with their cross-case analysis and results presented in another chapter. The third option, which was applied in this research, presents the report in order of the questions. Yin (2014) suggests that this method could result in the loss of some data. To ensure that the full extent of data was captured and presented in this research, the general information about each individual trail was covered in the previous Study Sites chapter, and the information from the interviews is presented in this chapter. This also protected the identity of participants. Photos represent some of the observations by the author, which also supported the assumption that the trails nominated under the National Geographic are generally well managed, and therefore suitable for inclusion in this study as best practice examples.

So far in this research, factors of trail management were divided into external or internal to trail management. External factors provided the broader national context, which were out of the control of the trail manager, such as the political, legislative and funding frameworks and the culture of volunteering. The internal and trail specific factors, those within the control of the trail manager, were governance, partnerships, conservation, infrastructure and tourism operations. The internal factors set out the specifics of each individual trail within the broader context, the external environment. While there certainly has been some cross over between the two sections, the internal factors are considered as those essentially within the control of each trail. Specifically, the earlier Study Sites chapter provided a detailed description of each trail, such as location, user group, length and infrastructure, history and purpose, management, tenure and reason for inclusion in this research. It provided information about how the selected trails are managed and identified some of the management body partners, which responds to the secondary research questions one and two. This will be discussed in more detail in this Research Findings chapter.

This chapter presents the research findings under the same broad headings as earlier chapters, covering the same factors of trail management. Participants confirmed these factors as components of trail management, identified through repeated appearance in the interviews during the analysis. Participants further confirmed that there were no additional factors to trail

management than those already included in the open questions during the interviews. The same headings therefore continue to allow the development and analysis of comparison criteria between descriptions and findings. For this chapter the views of the participating trail managers about these factors are presented. Most participants had limited reflections and comment on broader political, funding and culture of volunteering aspects, the external factors, and spoke of all factors from their trail's perspective. It was therefore too limiting to divide their comments between external and internal, as all were part of the management of their trail. Therefore this chapter does not separate the two, but rather just follows the same order of the categories. The first three categories, political, funding and culture of volunteering, are still considered primarily external, but include internal factors. Funding and governance are the core factors in this thesis to address financial trail viability. The Funding and Governance sections outline the trail managers' view of an ideal management model. The conceptual framework interlinks the trail management components into a process oriented flowchart, showing inputs, processes and outputs. This conceptual framework explained the interaction of the factors effecting trail management, which informed the new trail management model. The participants' names were changed and identifying components of transcripts were excluded to protect individual confidentiality. Some content was translated by the author and all monetary amounts were converted to USA currency to protect identities.

5.1 Political

Different political and legal systems directly impact on how trails are managed and financed, and the tenure they traverse. Legislation is required to protect natural areas in a broader system structure, which represents the tenure for most of the trails in this research. Table 8 offers an overview of trails that have legislation relevant or specific to trails, and those with volunteer legislation.

5.1.1 Legislative systems

Two different levels of legislation related to trails were identified in this research. Apart from having a general legislative system, countries either had legislation relevant to trails, such as for protected areas, public access, tourism and traffic. Or they had trail specific legislation, including aspects of trail designation processes, governance structures, funding, types, standards and marketing. The USA pioneered recreation trails and, with that, developed extensive trail specific legislation to cover most aspects of trail management. USA based participants spoke of the practical implications working under the *National Trails System Act 1968*, in particular about the relationships between government and community partners, powers and funding processes.

Table 8: Legislation influence on trails overview

Trail	Country has legislative system	Legislation relevant to trails	Legislation specific to trail	Legislation for volunteers
<i>Munda Biddi</i>	✓	✓		✓
<i>Nga Haerenga</i>	✓	✓		
<i>Appalachian</i>	✓	✓	✓	✓
<i>Arizona</i>	✓	✓	✓	✓
<i>Pacific Crest</i>	✓	✓	✓	✓
<i>West Highland</i>	✓	✓	✓	
<i>Lechweg</i>	✓	✓		
<i>Rim of Africa</i>	✓	✓		
<i>E-Path</i>	✓	✓		
<i>Jeju Olle</i>	✓	✓		

The *Appalachian National Scenic Trail* and the *Pacific Crest Trail* are the oldest original National Scenic Trails in the USA, which came under this Act. One of the participants thought of them as the “grandmothers of trails”. For the scenic trails included under the Act, substantial financial commitments were made by government for land acquisitions to protect the trail corridor, as described by a USA based participant: “I guess it was in the 1980s when there was a fairly large amount of money that was available to begin purchasing lands to permanently protect the trail corridor.” For the *Appalachian Trail* it encouraged state governments to take a lead role in protecting the corridor through land purchases, which reduced the still privately owned trail sections of nearly 30 percent to less than one. In addition there were several other legislations relevant to trails in the USA, which participants were aware of, mostly in relation to funding and volunteer protection. Some of the acts mentioned were the *Wilderness Act 1964*, *Land and Water Conservation Fund Act 1964*, *Volunteers in the Park Act 1969* and the *Volunteers in the National Forests Act 1972*.

In Scotland trail specific legislation originally ensured access to primarily private land. The participant from Scotland described how five or six years ago the *Land Reform Act 2003* made access to the land statutory. While people always had the right to cross private property, this has clarified the rights and responsibilities of land owners and the public. Since then the focus moved to economic opportunities, legislation now also incorporating trail standards and marketing. The participant commented that legislation set structures and standards for the statutory trails, including a business plan. This enables record keeping for maintenance, commercial activity and overall marketing and promotion. The *1967 Countryside (Scotland) Act* gave the Countryside Commission for Scotland the power and duty to identify and propose Long

Distance Routes, and subsequently to promote and fund their implementation by local authorities following designation by the Secretary of State for Scotland. Legislation was expanded to include additional routes, which extended consistency of provision to walkers and provided standards for communication between trail managers and land owner. The 1967 *Countryside Act* and the success of the *Pennine Way* provided the background and support for the WHW.

Most other countries, such as Germany, New Zealand, Australia, South Korea and South Africa had trail supportive legislation, generally covering access to the land, protection for volunteer, and public liability. In Germany it is the *Paragraph 14 Bundeswaldgesetz* which provides for 'Wegefreiheit', described by the participant from Germany as meaning that everyone is permitted to enter the forest for the purpose of recreation and restoration, but at their own risk, especially for dangers typical to forests. The split of trail specific or supportive legislation can be seen in Table 8. Volunteers are usually a key management component for trails, with participants primarily talking about their liability to protect them for personal injury and public liability. Therefore volunteering legislation is specifically identified in the table as trail supportive, providing protection to the many volunteers engaged in trail maintenance and management.

5.1.2 Political direction

Governments set direction for provision of services versus user pay. All trails in this research are essentially free to use, though some pass through fee paying parks which attract a charge for that section. The main differences were found in the level of government funding provided, which is further discussed in the Funding and Governance sections. Many trail managers were seeking funding away from government sources to safeguard their organisation and trail against government funding cuts, such as varying forms of user pay, memberships, philanthropy or sponsorships.

Major differences include government support for the purpose of economic growth, for recreation and health, or conservation, which can shift over time depending on the general political direction of the country and associated culture. Some recent examples identified trails receiving new or renewed government support for the purpose of economic opportunities, as described by Frank:

I think they know now, because there is quite a drive from the [country] government and tourism and long distance routes. There is certainly much more pressure on all of the public sector agencies to keep on top of the maintenance of the route and

development of the route. It is in the psyche of the people and the politicians and in some respects that is probably easier for me, because you just have to mention [trail] and everyone wants to be associated with it.

He further acknowledged that:

It is all a bit hit and miss isn't it? I suppose in [country] we have the advantage of the actual (...) statutory trails, so there is legislation behind the creation of them. So there has been a kind of consistent model there, predominantly being pushed by [federal government department] in the past, because they part funded the maintenance of the trails. (...) have a bit more structure in place, because there was a requirement to have a business development plan in place. So we would actually be able to record how we are maintaining the route, and the commercial activity, and overall marketing and promoting. (Frank)

Political directions also influence strategies, resource availability and frameworks for regional development, tourism and trails, as described to some extent by Frank above.

5.1.3 Public liability

Political direction and legislation set the public liability laws for each country. The questions around public liability were included to gauge how each country is governed in view of potential law suits, testing government responsibility. Variable insurance cover arrangements were identified by trail managers, though mostly these were held by the land owner or manager, often a government department. In some cases it was the private land owner, which would mean that they were reluctant to make their land available for trails. Frank's case describes both sides, as the government department owned only a small component of the land and therefore held limited responsibility.

Responsibility falls to the land owner. Agreement is path is kept obstacle free. The land managing agency is responsible for any claims against faulty structures. We don't actually hold insurance, cause the [government department], we don't have insurance, any claim we would get that way would have to come out of our revenue. (Frank)

5.2 Funding

Different funding models are often at least partially reflective of the country's political and cultural approaches, broadly summarised under government direction, volunteer engagement and value of trails for community or regions. Decisions about governance and funding models often appear to be based on matters broader than the individual trail, such as land ownership

models and funding environments, generally similar within each country and to some extent even continents or larger regional areas. If protected areas were funded through governments, then their trails were often funded the same way, most commonly in partnership with a community group. A common government funding model was to provide grants and funding towards trail development, maintenance and land purchases. Funding models are often determined by the political view and approach of different countries towards government policy, such as the public provision versus user pay discussed above and in earlier sections. Table 9 provides an overview of each trail's income sources.

Table 9: Funding sources overview

Trail	Government funding	Government grants	User pay /business operation	Sponsorship	Philanthropy /donation	Membership - NGO
<i>Munda Biddi</i>	✓	✓	✓	✓		✓
<i>Nga Haerenga</i>	✓	✓	✓	✓		✓
<i>Appalachian</i>	✓	✓	✓	✓	✓	✓
<i>Arizona</i>	✓	✓	✓	✓	✓	✓
<i>Pacific Crest</i>	✓	✓	✓	✓	✓	✓
<i>WHW</i>	✓	✓	✓			
<i>Lechweg</i>	✓	✓		✓		
<i>Rim of Africa</i>		✓	✓	✓	✓	
<i>E-Path</i>		✓				✓
<i>Jeju Olle</i>			✓	✓		

The USA, Australian and European trails received their funding primarily from the government in form of recurring funding, plus project based grants, as can be seen in the Table 9. In the USA and Australia these trails were managed through a partnership between government and an NGO. Typically the NGO partner would receive funding from the partnering land manager agency to manage and maintain the trail. The USA trails were primarily federally supported through recurrent funding and grants. In addition USA trails were recipients of large philanthropic contributions. In Australia the main funding was provided by the relevant state government with the occasional federal grant for specific projects. European trails were essentially completely funded by various government bodies. Unlike their USA and Australian counterparts European trails were funded more locally through councils, the National Park Service (regional park based, not nationally administered) or other regional development and tourism groups for recurring, plus national and European grants.

5.2.1 Financial concerns

All participating trail managers spoke of financial concerns, mostly about potential changes to future government funding availability and models. Having a high reliance on government

funding was a major concern for participants all over the world. The Global Financial Crisis had affected many governments, resulting in funding cuts. “Talking about lots of cuts, which makes everyone nervous” (Belinda). For some this resulted in a change of government direction, with direct implications for the trail. “The paperwork was with treasury. Then we had the election – back to square one” (Chris). Acknowledging government funding restrictions meant that the community partner felt pressure to increase its aspect of trail management, as suggested by Chris: “I understand that [government department] don’t have the budget anymore. So that is one area we need to cover.” Participants also described the whole situation as a ‘conundrum’, as they were struggling to find the resources elsewhere. Will said: “They give us some general money that we can use, but that’s what I’m constantly replacing, this general fund, that’s shrinking.” The concern was shared by Belinda: “As federal money is going down, that’s why the idea of putting it back onto the user. It’s another complicated issue to deal with. Those are the kind of things we are wrestling with these days”. It was sometimes seen more positively for government money to be given to the community, according to Frank: “The complexity in [country] is that to get extra money, it is easier for the local operators and small community groups, that actually set up the trail, it is easier for them to access public money, than the public agency”. In some countries the government funding was considered seed funding, with the aim for the trail to develop a business model and financial sustainability.

So basically the government is phasing out of the build right now and then ramping up of the operation. So there's a wee bit of transitional funding, probably, I don't know, two or three years maybe. It's pretty lean, it's not a big number, there's no one on big salaries there at all, they're very basic sort of salary positions. (Don)

Government funding and grants were generally used for the same purposes, such as management of maintenance volunteers, maintenance costs and land purchases to protect the corridor. Mostly, the government contribution was matched by the community partners on a cost share basis.

They do give us some money for training that goes to volunteers, if you will, for training them on how to take care of stuff. And some general funds that go to the general management of the trail (...). But it’s not enough. It’s roughly 50 percent, or a little less than 50 percent, of what it’s costing us. (Will)

He continued: “We get money to buy land. We also get money from the government for specific programs that the government wants to see happen (...). They give money for trail assessment,

investigations, climate change.” Some trail managers appreciated the grant funding, but had concerns over the project based nature of funding, leaving day-to-day overheads excluded, as expressed by Chris: “Long term struggle for funding, only relieved for a while through a major grant for a few years. It’s always been tight on the money side. There is always the issue to get more money.” Belinda’s concern was more based around continuous improvement, rather than survival of the organisation:

Always like to increase your area. So that is our big concern right now, where our [government] budgets are going. You know we had a sequestration this year. We think next year is going to be even worse. And I don’t know how well positioned we are necessarily as an organisation to go after more private money. We’ve had a legacy of receiving public money. (Belinda)

5.2.2 Diverse funding sources

To minimise financial exposure risks from government funding in particular, but also generally, all trails had a variety of funding sources. This included a mix of government, user pay or business operations, corporate sponsorships, philanthropic donations and memberships for NGOs. In particular government funding cuts across the USA and Australia has meant investigation and inclusions of wider income stream sources, such as sponsorships, memberships, donations and business like operations. This was how a participant defined their funding portfolio:

Yeah so about 35, 40 per cent from Federal Government. So probably more like 57 - 56 per cent from individuals, three per cent from corporate, one per cent foundation and then 40 per cent from the Feds. That adds up to 100... So really our only revenue streams - looking down our financial statement here, its individual contributions, government income. (Betty)

Will suggested it is a good idea to have -

(...) a variety of funding sources that we go after. Our development office has, we have a membership, we have donor levels, we have corporate, we have foundations, plan giving... We do stuff on the web; we are experimenting with various fundraising aspects, some successful, some not. We have a visitor’s centre downstairs that sells stuff, merchandise. We charge fees for certain things.

The following sections provide an overview of the key income streams.

5.2.3 Government funding

In the USA funding is distributed under the *National Trails System Act 2009* through federal agencies. The community partners for the national scenic and historic trails get together annually to lobby Congress for funding for their trail.

So we have this, we call it “Hike the Hill”, and it’s our time to really voice what is working and what is not working at a higher level of the agencies. And then we all meet with our congressional representatives to basically let them know what is happening in their jurisdiction. (Belinda)

In Europe typically there is no community partner for each trail. Funding is primarily provided through direct and indirect government funding, with a strong focus on financial returns to the local and regional communities.

Money will come from the public agencies predominately, because they haven’t set up to do any commercial activities, so there is a gap there. Because if they don’t have the numbers then there is no point in doing the commercial activities, because it is a numbers game. (Frank)

Funding for major trails is primarily the responsibility of the state government in Western Australia. In New Zealand the initial investment into the development of the *Nga Haerenga* trails was through the national government, but ongoing funding and management is regional or local. In Scotland trails are administered under its legislation, which allows grant based funding, but essentially each government land owner must fund its own management and maintenance. The Lechweg is administered through regional governments across the border between German and Austria. Again, each government land owner and tourism organisation funds its share of trail management. The African and Asian trails are locally administered and funded through their NGOs. The European *E-Paths* are managed through a wide variety of governments and organisations. The European Ramblers do not hold management responsibility.

5.2.4 Grants

Most of the participants spoke of grants as one of the income streams. In Australia and some other countries funding through lotteries is distributed through grants. In Western Australia this is distributed with input from the Department of Sport and Recreation to provide grants for trail construction, promotion, information technology and associated projects, as well as the development of recreation community groups. Grants can also be the result of government assets sales and investment of the funds.

...there are grants available, we have things like [name], a lot of these trusts have money that came from the sale of things like the electricity [government agency], and they tend to have about [US\$100 million]. They retain the capital and they have - they invest it like a superannuation fund. So they might get ten to twenty per cent per annum on that, so they might be able to give out [US\$15 or 25 million] a year to the local communities. (Don)

Grants for transportation was aimed at reducing vehicle traffic, particularly in high volume and problematic areas. Money was made available to foster alternative transport modes, such as pedestrian and cycling trails. "Federal agencies can apply for [program] funds through the state. Some federal transportation funding do go directly to the [agency] also and can be used for trails" amongst other things (Wendy). In other areas, such as Europe, national or broader governments provide regional development support to improve economic growth.

In [European country] public grants are available through each country and also through the European Regional Development Fund. In addition, local and regional governments, public tourism and agriculture organisations can contribute to larger scale infrastructure projects. (Rita)

5.2.5 Taxes

Another revenue stream was through resource industry taxes, which in the case below was specifically used for land purchases to protect the trail corridor.

We have a large pot of money that is coming from off shore oil drilling, there is a tax on off shore oil drilling. It is supposed to go into a pot just for land acquisition. It is not just trail related land acquisitions, but have typically projects that we asking our congressional representatives to support (...). So we put project packages together and describe what we are trying to acquire. And that funding actually goes to our agency partners to acquire that land. So the agencies can't lobby for that money, but we can as a private organisation. And then we work cooperatively with our agency partners to help move their deals along kind of thing. So that is our primary interaction, sought of at that, with government relations, or lobbying for the most part. (Belinda)

5.2.6 Memberships

Those trails that were managed by an NGO in part or whole, needed to seek funding for their own organisation and the trail, with membership seen as one of their income streams. For trail

peak bodies and multi-government trail managers, membership fees from each partner funded the managing body. In this example from Rita:

The association is primarily financed through the membership contribution of its tourism destination organisation members. Initially the membership contribution was based on a formula made up of kilometres of trail within each destination area, the overnight stays count in summer, plus a base amount. Since 2013 the solidarity principle applies where the smallest and financially weakest pays the least and the stronger partners pay the highest membership contribution.

5.2.7 Donations and fundraising

Donations and sponsorships are considered key income sources for many trails within countries that hold philanthropic values highly, such as the USA.

We've been doing this since the thirties. Existing since 1930s through donations, through wills. We've had the volunteer base, and the dedicated volunteers, and of course they gift us the money when they pass. That's what I think most of our funding has come from. It has been donations by people who helped built the trail. (Faye)

Not many trails are in such a secure position where extensive money was donated over many years, creating a secure financial base. Others have commenced a donation program more recently and are also very successful. This is how Betty described the process:

What has been most successful for us is, we still do a lot of fundraising through the mail, just good old mail. Well, we do mailings to recruit new donors; we do large mail pieces. You have to invest in these mailings, recruit these new donors and then get to know them. We are working to build a large base of donors and from that large base of donors that is where we determine which of those donors are capable of giving more, and which of those donors are interested enough to give more, so they have the strong connection and they have the ability. Then we call on those donors. We do personal calls, personal visits, get to know them, find out where their interest lies and then hopefully make a connection.

One trail manager contributed their financial growth to fundraising from individuals. "Yeah I've been here for 12 years now, so I've seen the ups and downs and we've grown over the last 12 years pretty significantly" (Betty). It is not their sole income, "it's only about 60 per cent of our budget, but it's the area that has grown the most I guess... and that's the area where I see the greatest potential for growth" (Betty). She said a key success factor is that "the board has to be

willing to give themselves. So all of our board members give very generously. That's important. If you're going to go out and ask people for money, and your own board members aren't supporting you, then it makes it that much harder to do that.” Betty described their model like this: “I guess for revenue generation the model would be the - could be seen as a traditional fundraising model in terms of focusing on individuals, focusing on high net worth individuals, if that's a model. I guess it's probably a fundraising model.”

Other trail managers outline their difficulties in securing donations. “It’s a unique resource, so the people that are donating at a higher level, it’s a very niche interest. It’s not big picture biodiversity or relevant to people all over the world kind of thing” (Belinda). And the link to government funding reductions is not seen as a draw card for requesting donations.

The problem is that donors, one don’t necessarily wanna backfill the government. They prefer to give money for new programs and such. And to just get money for, you know, pay the light bills and people’s salaries is not exactly what they want. So the challenge for us right now is to raise our portion of monies to cover just the lights and people’s salaries. (Will)

Trail managers who have been successful in receiving donations have used this as a base for investments.

The donations we’ve gotten over the years makes a nice little nest egg that we’ve been pulling off of. And a few years back we had one family donate close to, I think, about [US\$1 million]. So that went into our endowment, we’ve definitely used quite a bit of it. (Faye)

These donations can go directly towards operating costs, or are restricted through donor requests or endowments. Betty said:

We have an endowment which is - the principal is permanently restricted and we have an endowment policy that governs that endowment, which allows us to take a certain percentage out of that endowment each year based on the balance. So it's the endowment that is invested. We have about [US\$1 million] in the endowment right now. Most of that came from a bequest that was left by one individual.

5.2.8 Business operations

In countries where protected areas need to be self-funded, tourism is often considered an income source. It also means that trails within those areas need to find their own income

sources. The South Korean and South African trails in this research were not government funded. In South Africa a business model approach provided funding to the trail managing NGO. This was supplemented by occasional grants and private donations. Corporate funding to the NGO was more prevalent in Asia. Steve described their trail model like this:

Kerstin, you will see that's very much the model here, which is quite sad in many respects, certainly from my perspective... We will see on [trail name], because it's not state funded in any way, and actually to walk sections of the trail is quite a costly affair... We are doing our best to, as a non-profit trust now, to try and amend that as best as we can, because we really see this as a service to the public. But that means we need to raise money from other sources. We need to get support from businesses. We need to get support from landowners. We need to get support from members. So talking about a business model, those are the elements that we are building into that model.

Most trails in this research had at least a small (online) store for merchandise and maps. Some trail managers considered this as an income source, primarily the government funded European trails that were looking for small additional amounts. Frank saw it as:

The [trail] does generate healthy income from the online shop, retail arrangements. And I also have the use of our brand, so [trail] logo can go out onto a particular product. So I have explored everything we possibly can to milk as much money out of retail.

A trail manager with much larger financial requirements focused their fundraising resources towards other income sources and considered merchandise sales a community service.

We have a small online store, it's pretty small. So the total revenue from that last year I think was [US\$12,000] and the expense was about the same. So we're not making any profit on our store. We are selling [trail] related items however and guide books and that type of thing. (Betty)

Their maps and guides were largely produced by external providers but sold through the trail organisation's shop.

No, we just sell them for the publishers. So we haven't developed - we've worked in partnership with the [agency] to develop a set of [trail] maps but there are other publishers out there who are publishing all the books. We do sell them. Again, that's really a service that we provide. (Betty)

Though it is worth exploring the option of making money through the trail, according to Will, who considers this potentially a good income source, but says: “We are hobbled in our park specifically in that we cannot raise money in the park itself (...). That is a big hamper to us. If we can get beyond that we would be raising a lot more money.” Many trail managers consider the issue of charging a difficult and complex issue, as reflected by this comment from Belinda: “That could be a long conversation about commercial use of the trail.”

5.2.9 Entry fees

Some trail managers had investigated income options through charging entry fees, but none had implemented this at time of interview. Some of the trails passed through national parks that charged entry fees, but none of this went back to the trail specifically, according to Betty. “No, that would all go to the government, if such a thing existed, because the government - this is a trail on public lands that is managed by the government.” Other issues for charging trail entry fees are too many access points.

We can't really do that [charge an entry fee]. In fact we have a problem because if we overlay other parks, and if they all start charging a fee, all of a sudden it can be very expensive to do our [trail], because you'd be paying that fee every time you are going into another section of park. For the [national park] - to hike the trail you have to pay the fee. It's all done electronically. Has limited access trail and only 3 roads in. None of those fees go to [trail]. (Will)

5.2.10 Events

Several trails followed a community provision model, where services were provided by the community partner for low or no cost, often delivered by volunteers. Events and workshops included guided experiences and skill based training. These were generally not considered an income source. “We don't get any payment for any hikes. They may collect money for shuttling or gas money for carpooling, that kind of stuff. Some portion of our [organisation] do backpacking classes, where they teach people how to go out and do backpacking. And they do, because it is a class, ask for money for those things and that helps pay for the program and helps pay for the first aid training they get” (Faye). Equally, events were generally not considered an income source, as they were not a cost effective way to raise funds. Betty described it like this:

I have a masters in philanthropy and development, and one of the things I've learned is that events aren't very cost effective when it comes to raising money. I think that they have their purpose, but I don't think fundraising should be one of them.

Chris had a slightly more positive view:

You can run some events, but you've got to be bloody lucky to make huge money out of it. We are running events, show that we can do it, to showcase it, promote it, and whatever. Only a money maker if big sponsor, and then not big bucks.

Most trails had some events, but did not consider them an income source. As an example, any events operating on the *WHW*, such as the Caledonian Challenge, were provided through independent operations, often with benefits to the community and charities, but not the trail.

5.2.11 Best funding model

The towns and communities adjacent to trails are the real economic beneficiaries. Extensive literature is available that has investigated and supported this. Don described it like this: "So you could just work that out, they're spending so much per trip, I think the highest trail they're spending [US\$600] a trip, the lowest trail they're spending [US\$150] a trip." Chris reflected on the success of the [trail] in [country], where the local community and the tourism operators have created an income source from the trail. There are communities along the way, roughly a day's ride apart, and access was made easy through operators. "The communities needed something, so they were keen as mustard to basically provide the service bit. The perfect business model."

When trail managers were asked about the best funding model, most indicated satisfaction with theirs. Some trails were still in their infancy and exploring different income options. Will suggested that "It also depends on the culture, the cultural mindset of the country you are in." The government and community partnership model generally received good support from all trail managers, several of whom had cited the *Appalachian Trail* as an exemplary model. This trail manager positively commented about the government and community partnership model:

It's an interesting model. It's a good model. It probably weathers downturns a bit better than the straight government model, because a straight government model - the parks are easy picking for reduced funding. We have a little bit of a cushion in the sense we have volunteers that do a lot of things. (Will)

He had the following comments about the differing models used in the USA and Europe:

In my world the only issue is money! Compared to Europe. One of the advantages we have over here. If they build a trail over there, and it's the government that builds it, or takes care of it, it can't get volunteers to help out. That's fine. But if the government is starting to defund the trail, there isn't a culture of endowment, of philanthropy,

whereas in this country there is a strong culture of philanthropy. And also tax laws and everything that encourage people to give. So we do have that. The problem is that there are just so many charities to give to, that we compete for a small section of the pie. So have to improve the message. Which sort of helps things out if government funding softens, and you just don't have the money there. But it is a lot more labour intensive to manage volunteers.

Will also acknowledged the difference from a user perspective where European trails essentially apply a contributory user pay system:

Some of the trails I have done in France and Switzerland, you know I pay a small fee each night to have a place to stay, and a meal and everything else. And I assume that it all goes to help take care of the trail. The good news is I didn't have to pack much of a pack. The bad news is that it does cost a little bit of something to do that. So there is that aspect of it. Now, how much can you charge before there is a resistance?

This tended to provide a higher level of comfort and ease of access, but a reduced wilderness experience. Most trails recognised the opportunities and requirements of moving towards a business model of operation, which focuses on financial efficiency and sustainability.

Community minded shift to business model. It has to have a certain amount of money (...). To maintain it costs money. We can't live of grants alone. It's going to have to be run as a business going forward, or else it is never going to achieve what it needs to. As simple as that. It has to be in a full-on business model. (Chris)

This Funding section of the Chapter gave an overview of financial concerns and funding options. The other aspect of financial management is, of course, expenditure. The following Volunteer and Infrastructure sections discuss the use of volunteers, which is considered a cost-effective way of managing expense.

5.3 Volunteering

A country's level of volunteer engagement was generally reflected in that of its trails. Volunteering was a component of all trail management models in this research, ranging from low uncoordinated to high level trail management engagement. An NGO was a common trail manager, often in partnership with a government agency. Most trail managers considered volunteers vital, such as Belinda who said volunteers "take their job seriously and it's pretty impressive. And what motivates them, I think, is every bit of this public service." There was a wide spectrum of volunteer engagement levels and variations of responsibilities. On one side of

the spectrum volunteers were randomly supported by paid staff providing basic, usually manual, tasks. On the other side volunteers were organised through NGOs and held management responsibilities, as reflected by Faye: “the volunteers have all the power, and the staff support the volunteers” (Faye).

Table 10: Level of volunteer involvement overview

Trail	Volunteer managed	Volunteers supported by paid staff	Paid staff & volunteers	Paid staff with minimal volunteer support
<i>Munda Biddi</i>			✓	
<i>Nga Haerenga</i>	✓	✓	✓	✓
<i>Appalachian</i>		✓		
<i>Arizona</i>		✓		
<i>Pacific Crest</i>		✓		
<i>West Highland</i>				✓
<i>Lechweg</i>				✓
<i>Rim of Africa</i>			✓	
<i>E-Path</i>			✓	
<i>Jeju Olle</i>	✓			

5.3.1 Volunteer engagement

This research found that the case study trails of each country are managed similarly; for example, all the USA trails in this research were managed through a partnership between government and an NGO with a high level of volunteer engagement and responsibility. This was reflected in Belinda’s comments such as “It was all volunteer driven” and “Principally managed by volunteers”. On the high end the *Appalachian Trail* had about 6,000 volunteers contributing 200,000 hours annually, including a voluntary board. Trails in Europe were managed by local government collaborations with minimal volunteer engagement and low responsibilities. Here volunteers were either trail specific or part of the local government, as described by Frank:

Volunteers tend to do the walking, meeting and greeting and chatting with people. We have got some volunteers that do ditch work, culvert work. (...) More specialised things like building bridges, replacing gates and things like that tends to be done by permanent ranger staff.

Other countries had a wide range of volunteer engagement, dependent to some extent on their country’s commitment to volunteering, as well as the individual management model. The *Jeju Olle Trail* had volunteer driven programs, such as the job creation Jeju Olle Academy, which provides training to trail guides. Local women handmade souvenirs in the Union of Ganse-doll Workshops. The Munda Biddi Trail had ride guide training and ‘try the trail’ type events run by

volunteers. The New Zealand trails network was developed under a single government initiative, but each trail was individual and independently managed through its own unique management models, ranging from government to voluntary, including varying levels of volunteer engagement.

5.3.2 Values of volunteers

Volunteers are a cost-effective labour source with added benefits, such as community engagement and trail ownership. Some countries and their trails were advanced in the formalised involvement of communities through the public and private partnership, which essentially involved volunteers in the management of trails. Most community organisations had paid staff, whereas some were purely operated by volunteers. Nick said: “We rely on volunteers for most trail maintenance and construction, over 15,000 volunteer hours in 2013, but we also spend US\$50,000 to \$75,000 each year on paid professional trail crews”. At Will’s trail the “volunteers take the place of about 450 park staff to do current work”. Park staff do not have the resources to undertake all the maintenance work themselves. Don outlined their staffing set up and funding:

Well, the board is effectively going to be a voluntary board, so the only cost to the board members themselves would be travel and accommodation to meetings, or travel to meetings, they probably don't need to stay. So the idea is that would come as a levy from the individual trails, and what the board would - one of the roles of the board is fundraising and what they'd be looking at doing is having a couple of big sponsors that would cover all the board costs.

Some community organisations used volunteers for all levels of trail management, as they saw themselves “essentially contracted to do that” by the government partner (Belinda). Volunteers do the trail “marketing and maps (...), trail conditions, public information, website and development of a new trail guide. [Community partner] is assisting [agency] now and has long maintained their own GIS database” (Wendy). Others engage volunteers for more basic and additional tasks. Chris claimed that ownership of the trail comes from taking a role in its management.

It’s core to both. It’s the core reason for the [organisation] to be there. Anyone can go and run events on the trail really. But ownership of the trail, if that is the right word, comes from managing it. And managing it comes from having a volunteer base and running a program that keeps it clean. Our volunteers do the basics stuff. They clean out what we call the ‘face slappers’, and rake the leaves off and report the big stuff (...). If

started from scratch, realistically, I would put the onus onto the [NGO] totally, to maintain it.

Most trail managers spoke of the importance and benefits of involving volunteers, but there was also recognition that volunteers required additional resources and skills to manage. Volunteers require an incentive for participation, which needs to be provided and managed by the trail manager. This can require more time and resources for their supervision. Participants commented that volunteers may not be available at short notice or for a specific demand and may be reluctant to accept change. “Paid staff are beneficial over volunteers in that there is more control,” according to Frank. Another participant describes it as:

In theory it’s great to work with volunteers and, you know, especially when they are enthusiastic, and they have a lot of capacity, but it comes with a costs (...). Of everything that a conservation staff does, I would push it upwards of 70% of our time is probably spent just helping volunteers understand various projects, or priorities or, you know, doing training. (Belinda)

5.4 Governance

This section examines the decision makers and managing bodies, mostly consisting of a partnership. Some of the objectives of trails are addressed in following sections, such as conservation, infrastructure management and tourism operations. The governance and partnership sections analyse ‘who decides’ and ‘with what means’.

5.4.1 Purpose

According to Eagles (2009) purpose and resource ownership inform the governance model. Trails in this research had different purposes, primarily focused on providing recreation opportunities and protecting the environment. Job creation in New Zealand was a driving factor in the new trail development. For the *Rim of Africa Trail* it was to foster a personal and cultural connection to nature. Similarly, the *Jeju Olle Trail* wanted hikers to experience relaxation and happiness through the aesthetic of slowness. For the *Munda Biddi Trail* it was about meeting new demands by mountain bikers, and reducing user conflict on walking trails.

In addition to providing trails for the purpose of recreation, a more recent approach supported their development and management towards an economic model, which specifically included creating opportunities for local communities. For example, the initial purpose of the *WHW* was to provide access to private land. This has since been extended in response to an improved understanding of the *WHW*’s economic importance and business opportunities, delivering major

socio-economic benefits to the stakeholders. Determining the purpose was important to Will in deciding current and future management objectives for his trail (not *WHW*):

It comes back to what is the purpose of the trail. Because if the purpose is recreation, that's great, it's an activity. Or is it escapism, is it a way to re-commune with nature? Then necessarily the trail, if it is recreation or if it's re-communing with nature, it doesn't necessarily have to pass through wilderness or primitive area, to enjoy that, or to experience that. In this country we confuse those terms I think. A trail is a human centric park type, it's hard to divest people from a trail.

Decisions of purpose have consequences for funding models and income opportunities, such as business sponsorships, tours on the trail or user fees. Most trail managers, government or community, thought their organisation was providing a public service, whether it be recreation, tourism, economic or conservation.

5.4.2 Governance body composition

Three major aspects of a trail were addressed through partnerships represented on the management body. Firstly, land ownership, which is primarily conservation based governance, and is often made up of multiple partners due to long trails crossing a variety of land tenures and other boundaries with different land owners and managers. For example, the *Pacific Crest Trail* crosses many different tenures including federal and state managed, such as FS, BLM, NPS, and California State Parks. The *Lechweg* traverses public, primarily local government, forestry and hunting tenure, and some privately owned lands

Secondly, infrastructure liability to some extent determines an NGO as a partner. NGOs typically provide volunteers as a labour source, therefore the more infrastructure the higher the volunteer engagement, and the higher the likelihood of having an NGO partner on the management body. Thirdly, if the trail has a tourism purpose, marketing and promotion of trails and their regions can be delivered and coordinated through representation on the management body. Table 11 shows the representation of the three aspects on the governance bodies of the trails in this research, with the land owner and infrastructure manager represented on most. The *Jeju Olle Trail* maintains its own infrastructure, but does not have land owners or marketing groups as part of its governance structure, rather managing these through other partnerships. The *Rim of Africa Trail* has no infrastructure and manages these three aspects through partnerships. Only some trails have tourism as their purpose, and therefore manage minimal marketing in less formal ways.

Table 11: Governance body composition influences overview

Trail	Land owner	Infrastructure	Marketing
<i>Munda Biddi</i>	✓	✓	
<i>Nga Haerenga</i>	✓	✓	✓
<i>Appalachian</i>	✓	✓	
<i>Arizona</i>	✓	✓	
<i>Pacific Crest</i>	✓	✓	
<i>West Highland</i>	✓	✓	✓
<i>Lechweg</i>	✓	✓	✓
<i>Rim of Africa</i>			
<i>E-Path</i>	N/A	N/A	✓
<i>Jeju Olle</i>		✓	

Government land managing agencies, whether local, state or national, were usually part of the trail management body because they were responsible for large sections of land traversed by the trail, as can be seen in Table 11. Government tourism organisations were the only other management body member in this research, specifically in Europe and New Zealand where economic drivers through tourism were key objectives. Where there were multiple government land owners, such as in the USA and Australia, usually the agency that owned most land took prime trail management responsibilities, whereas collaborations of smaller government entities were generally found in Europe. The following example reflects a cross government collaboration, where there was substantial private tenure of the trail corridor, but no private representation on the management body.

We own very, very little of the land in the national park. [Agency] is the next biggest landowner, and the rest is private landowners. We have a loose arrangement that works. [Trail] was established a long time ago, 32 years, and land owners know that it is there. Any conflicts have since been resolved. (Frank)

For community managed trails, tenure included a variety of public and privately owned lands, with access by arrangements. In another country the main tenure was private ownership: “Land - It will probably vary, between 10 and 20 per cent is state owned in some form. A lot of it is private land and otherwise private conservancy” (Steve).

5.4.3 Governance models

The trails in this research were managed in a variety of ways using different models. The governance models ranged from collaborative government, to government and community partnership and sole NGO, as shown in Table 12. The public and private governance model was the most common model for the trails in this research, essentially applied in the USA and

Australia, as outlined in Table 12. The multi-government partnership model was used by the European trails and NGOs were the sole trail managers in South Korea and South Africa.

Table 12: Governance models overview

Trail	Multi government	Government/NGO	NGO
<i>Munda Biddi</i>		✓	
<i>Nga Haerenga</i>	✓	✓	✓
<i>Appalachian</i>		✓	
<i>Arizona</i>		✓	
<i>Pacific Crest</i>		✓	
<i>West Highland</i>	✓		
<i>Lechweg</i>	✓		
<i>Rim of Africa</i>			✓
<i>E-Path</i>			✓
<i>Jeju Olle</i>			✓

Each model had its own positive and negative aspects and trail managers were generally supportive of their own models. The public collaborative model was observed in Europe for the *Lechweg*, which is managed by several regional government entities. The Verein Werbegemeinschaft Lech-Wege Elbigenalp (promotional association), founded to develop and manage the *Lechweg*, is made up of the five tourism destinations: Lech Zürs Tourismus GmbH, Warth-Schröcken Tourismus, Tourismusverband Lechtal, Tourismusverband Naturparkregion Reutte and Füssen Tourismus und Marketing. Similarly, the *WHW* is managed through a public cooperative model made up of relevant local governments and the National Park Service, who formed the *WHW* Management Group. The Management Group takes a corporate responsibility for reaching agreement on priorities and issues that require determination, such as overall path maintenance and socio-economic development programs. They also undertake the *WHW* marketing and promotion. Each member is responsible for the infrastructure maintenance within its boundaries. In contrast, the public and private partnership model had variations in regards to the split of the roles and responsibilities. Will described the governance and its complexities from the perspective of his trail:

We are a public private cooperative, so we are more than friends group, not quite a concessionaire contractor. I think it is a fairly good model (...). It does require that the governmental entity does have to delegate some responsibilities. (...) and some of its authority to a not-for-profit entity. And that is not always easy in a governmental world. Likewise, it does require that the not-for-profit entity needs to be set up to be able to carry its share of the load. We do most of that through volunteers. But truthfully we

struggle financially to meet all our financial commitments. The park, like all parks in the [country] have slowly been reduced in funding.

In some countries governments supported the NGO partners through cost share, or fee for service agreements, which provided a financial contribution towards the management of volunteers. It was “used to assist the [trail organisation] in their role as primary private partner of the agencies who manage the trail. Money to [trail organisation] for training of volunteers and gateway communities” (Wendy). The government contribution was based on quantifying volunteer contribution into monetary terms, according to Wendy, and “the matching contribution can vary, but the [trail organisation] is a strong partner and is contributing approximately 50 percent.” As an example, Belinda’s trail had delegated the volunteer training to the community partner under a contractual agreement between a government agency and an NGO.

You know, what’s key about the trail system is that it is a cooperative management system. Our trail is administered under [department] by the [agency]. And there is one [agency] office that we work with that has about 8 to 10 staff. And as part of becoming a [legislated] trail there was a recognition that the long-term maintenance of the trail required that, you know, volunteers continued to be involved in the process. (...) [agency] basically came to [community manager], my organisation, the [name], and said that, you know, as part of our partnership we are delegating to you the responsibilities of managing the trail and the [agency] would retain the management responsibilities for land acquisition and law enforcement. (Belinda)

Chris saw it like this: “I’ve been involved with government myself. It seems to be par for the course. It doesn’t matter what department you are in, it seems to be this constant, evolving, changing landscape, people in people out, refocus, re-change, change budgets (...).” He reflected on the difficulties of running a community organisation, not just in regards to having to find income, but also finding people to be involved in its management.

Very much an internal home grown board. Seeing the effort we had to go through to get new blood, and appropriate blood, to give us that broader perspective, and skills and abilities. We had to do the gig with the [management institute] and be involved with their whole company of directors program, and do that – it returned the goods, but it shows the effort you have to go through. (Chris)

Don, who had a broader overview role, said that "what I'm seeing is that the best structure is that the trail has been under the umbrella of the local authority, local council." Under this model trails are treated as council infrastructure and the council puts money aside for their maintenance through paid staff. Don suggested that huts could be in operation within ten years.

In that same category is the [department] (...). They also have structured maintenance programs and they can get the spraying done, they get a bunch of people out on slashers to do some chopping back if they need to. They've got those people on their books and they can do that easily. But the next level down, we've got about [...] trails that are run by local trusts, and they are really - their options aren't that good. They've either got to do it voluntarily themselves, or they've got to raise some money through their community trusts or local sponsorship to earn money to pay people to do their maintenance. (Don)

5.5 Partnerships

Partnerships in this section refer to those outside the immediate management body. The partnerships discussed in this section are with businesses, communities, land owners, tourism bodies and conservation groups. Without partnerships trails would be unlikely to exist as there are so many aspects of trail management, often across long corridors of land, which are too much for a single entity to manage. Partnerships were identified as vital, but also time consuming and complex to manage. The issues and benefits of partnerships were discussed by this trail manager.

It's like this - there's probably 70 partners on here. Some of them - we have a high school that we partner with and bring kids out on the trail every year. So we consider all of those groups that work on the trail, we consider them our partners. We have other youth conservation corps that we partner with. We have other trail associations that we partner with like the [name]. We have one on here called the [name]. This is a group that comes out and does a couple of projects. We have some state partners; so we have [name], they're a state partner. [State] department of natural resources, they're another state partner. So quite a lengthy list of partners. (Betty)

Betty further explained that benefits varied "from partnership to partnership really. Some of it is trail work, some of it is connections to other resources, some of it is funding. Advocacy support for lobbying, for [commercial] lobbying." There are a variety of formal and informal arrangements in place.

I think we have formal agreements for those that are maintaining the trail; we have formal agreements with them. We have formal agreements with our three federal agency partners and our state partner; we have a formal agreement with them. But we do not have formal agreements with every single partner. Yes and one of the reasons that we included partnerships as a separate goal in our strategic plan is because we want to take a closer look at the number of partners that we have and maybe narrow it down a bit and better define what it is we might want to get from the partnerships that we end up with. We have a lot of partnerships. (...). They take a lot of time. (Betty)

This is supported by Faye, specifically with regard to the number of government partners across many tenures. “My problem is that I have 32 different organisations, our government partners that we report to.” Having broad support during the development and management phase of trails was considered crucial.

What we had was alignment, from the prime minister down through to the government agencies like the conservation department and the organisations that own the land, the roading people, national tourism and national transport department. That alignment just meant that everyone was really on the same page and we had the same vision. Now the challenge really is to continue that same motivation and enthusiasm through the marketing people and the business owners along the trail. Make sure everybody's [trail] experience is absolutely positive. (Don)

Where governments were not part of the management body, they were often partners or stakeholders. There are around 60 government entities involved in the management of the *Appalachian Trail*. This community based manager from a different trail described their partnership:

But what we are trying to do is work more complimentary and collaboratively with the state entities and they are very supportive of the project in principle. They've put some money towards some of the elements that we are engaging with. But those are only elements that overlap with the existing projects that they feel they can fund. They help us out to some extent with a marketing budget or cross-marketing platforms, as opposed to actually any form of cash. So yeah, it's more a mutually collaborative relationship than a sort of donor sponsor type relationship. (Steve)

For government trail managers, such as Frank, partnerships are important for similar reasons, as they provide support for the trail.

So what I am trying to do is show commitment first and foremost by improving things within the park area and then I am trying to get the group to enlarge the management involvement, and involve communities within the park, so there is buy in from start to finish, as there is with [trail name]. Because it is a good model that everyone is proud to be associated. There are business opportunities along the way. (Frank)

5.5.1 Trail communities

Over the last century there has been a move towards partnering with communities and businesses along the trails. Often termed 'trail communities', these improve the visitor experience and support the trail, while providing benefits to the local community – a three-way mutually beneficial arrangement. Many trails had more or less formal trail community partnerships. Some trails had a weaker focus on income generation, but were operating from a community model basis to provide better services for trail visitors and be inclusive of communities. Others focused on regional tourism development, creating economic opportunities. For example, the Arizona Trail Association works with the trail communities along the *Arizona Trail* to offer coordinated support services for trail users and create income opportunities for the communities. Business partnerships promote services that support the Arizona Trail Association and *Arizona Trail* with financial and in-kind contributions. From a different trail, Nick described his gateway community program:

[Trail organisation] employs a part time person for gateway community development to help connect trail users with the services available in communities near the trail, as well as help these towns develop into trail towns. Part of the new [community outreach project] efforts include the development of regional maps, 19 in the series, which feature the [name] trail near each major gateway community. This will encourage people to visit the towns, pick up a map, and explore the trail. Number of maps distributed will help us gain a better idea of trail use (and therefore, economic impact) within 19 of the major gateway communities. The [trail organisation] has developed business partnerships to promote businesses that support the [trail] with financial and in-kind contributions. (Nick)

5.5.2 Tourism business partnerships

Don established a formal trail partners program, which was loosely based on the Western Australian *Munda Biddi Trail*. Businesses signed up for a fee in exchange for being associated with the trail and its promotion. Their fees contributed towards marketing and promotion of the trail. A business directory of the program partners provided visitor information and links to the

businesses. Don said that “The trails that are taking off are the ones with the most partners that have signed up”. Merchandise was managed through each trail and was usually minimal. Publications, programs and events were also individual trail responsibility.

Well the fact is that some of the trails have over a hundred businesses now, and I think the success of the - it's a chicken and an egg thing, we're not quite sure what's coming first. But the trails that are taking off are the ones with the most partners that have signed up. So that's proof in the pudding, the fact that they've signed up means that they've got actively engaged, they've attracted [trail users]. The [town] ones got a whole lot of official partners now. Also people can then - if they see the people using the trail they can say, I might go and invest some money in a trailer and buy ten bikes. I could see a good job for myself, so suddenly you've got a new business formed. (Don)

Some business membership programs resulted in successful partnerships, as well as creating an income source.

But we had a long discussion about the level of payments and we ended up with a couple of tears. We had a national partner that was an organisation that operated over more than five trails, and they paid about [US\$900] a year. A local partner paid I think [US\$250] a year, so it was quite low in the early days. But if you've got a hundred partners that's [US\$25,000], you know that's not bad money. (Don)

These partnerships also proved to have other benefits, according to Don:

They actually offer a lot more value than that, because they're hugely enthusiastic and they all have their own brochures and websites and guess what? They push the [name] trail, so some of the hotel chains that we've got, they'll have a competition and a big high profile newspaper. The winner gets to stay in the accommodation for two days and ride the such and such [name] trail. So we're seeing a lot of marketing coming from our partners as well.

The success of the business partnerships was supported by Frank:

We are very engaged with the business operators along the way. We have greatly increased the number of businesses actually contributing. Once you have them on board, and they realise the benefits, they tend to not fall off the list, you see. We do a lot of activity to support businesses, because the businesses drive its economic generation into all these areas.

The *Lechweg* is based on a highly functioning and complete tourism model, an advancement on the New Zealand model. All services and businesses are provided through members of the *Lechweg*, so called “Partnerbetriebe” (partnering businesses). This includes accommodation providers and meals. Transport is managed through the public bus system and an independent business provides luggage transfers.

5.5.3 Trail stewardship

Trail stewardships were another common form of partnership at varying levels of formality. These improved connections of the trail with communities and resulted in community ownership. Belinda saw a broader application of partnerships:

And then we have a program called [name] community trail program, which is a fairly new program for us to try to engage communities close to the trail, in part for awareness, but also in part for protection and trying to build more of a connection for stewardship from communities that are fairly close to the trail. Making those connections can be really important in continuing to build their stewardship efforts.

5.5.4 Sponsor partnerships

Most participating trails had engaged with businesses as partners or sponsors, to deliver mutual benefits. As an example, the corporate sponsorships for the *Jeju Olle Trail* provided financial support or assisted with tasks, such as promotion, through the Jeju Olle Foundation. Rita’s trail partnerships included business support, which was similar to sponsorship, but with a higher level of mutual benefit.

The cooperation with [outdoor equipment companies] is a give and take. There is no financial support as such. For our print and online products we engage these companies, as much as they include us in their marketing campaigns. We receive equipment for staff at discounted rates, and also for photo shoots and prizes.

5.5.5 Conservation partnerships

Conservation partnerships are another key area for trails. This was in addition to a conservation focused member on the management body, such as a park agency or an NGO with at least a partial conservation focus. Sometimes the conservation partnership was based around volunteers engaging in conservation work along the trail, such as weed management or trail maintenance. The government partnered trails in Europe had less conservation based partnerships for their trails, and in general had far less partnerships with community groups.

They [NGO partners] tend to be large organisations that can buy land quickly and hold it until our federal partners can buy it out from them. And then our role might be to lobby for further funding to help buy that partner out. Those are probably our other core partners. We also partner with smaller local land trusts to help with additional land protection opportunities. More on a case by case, nothing formal. (Belinda)

5.6 Conservation

Conservation and environmental protection were encouraged or enforced through law, standards and funding opportunities. Trail managers understood the requirement of protecting the environment the trail passed through, not just from a visual and experience perspective, but also in-depth and causal perspectives. Trails largely traversed protected areas, often making the responsible conservation agency a representative on the management body, as can be seen in Table 13. This meant that at least one managing partner held conservation as a prime objective and provided guidance to the trail.

5.6.1 Underlying principles

Protection of the environment was an underlying principle and core objective, as intact flora and fauna represented a large part of the appeal of nature trails. This had practical implications for trail construction and maintenance. For example, any disturbance of soil and major vegetation clearing generally required approval processes, as described by Belinda:

What we have to do in [country] is that any time there is some kind of management action on federal land that might disturb soil that would cause some kind of environmental or cultural impact, we have to go through an environmental impact analysis.

No trail manager spoke negatively about having to go through sometimes lengthy approval processes and considered them necessary. Even though most of the trail managers interviewed represented existing trails, future construction disturbance from realignments was considered for environmental impacts, as outlined by Frank:

Encourage them to use a different route away from the environmentally sensitive area. That's why we are trying to bring everyone under one umbrella. If we all get together then at least there is more peer pressure to come up with some sort of consistency.

Another trail manager, Steve, considered the environmental protection insufficient and wanted to further goals of conservation through their trail.

If you are going to cut a path in the landscape you do need an environmental impact assessment. But that's pretty much as far as it goes. We are trying to pull (...) together the trail industry per se, by looking at norms and standards and encouraging a certain kind of protocol around that and this is an initiative called the Green Flag Trails Initiative or Green Flag Trails. So a Green Flag trail will say certain things, that the environment should be well managed. The trail will be well maintained. There will be adequate signage. The descriptions of the trail route and maps are all accurate. The marketing is representative of what the trail actually delivers. It has a stronger environmental focus than the European Ramblers' Association's Leading Quality Trails system.

Table 13: Value of conservation overview

Trail	Underlying principle	Prime purpose	Conservation agency as partner
<i>Munda Biddi</i>	✓		✓
<i>Nga Haerenga</i>	✓		✓
<i>Appalachian</i>	✓		✓
<i>Arizona</i>	✓		✓
<i>Pacific Crest</i>	✓		✓
<i>West Highland</i>	✓		✓
<i>Lechweg</i>	✓		
<i>Rim of Africa</i>	✓	✓	
<i>E-Path</i>	✓		
<i>Jeju Olle</i>	✓		

Trail managers saw conservation as an underlying factor for all their activities and operations, as highlighted in Table 13. In particular, there was support for government mandates to protect and conserve and to act in partnership for environmental projects. “We have this symbiotic relationship with the parks” (Faye). Belinda said:

One of the [department] mandates is to protect natural and cultural resources. And I would say within the last, probably seven or eight years, we really worked collectively with the agency to look at those threats or issues to the ecology of the trail corridor that are perhaps the most pressing. One of the things we do is monitor invasive species. (...) And we've been paying attention to rare plants, and actually that is a volunteer program. The most recent project we are looking at with the [department] is starting to monitor phenology, the seasonal changes in the life cycle of plants in particular.

5.6.2 Environmental education

Trail managers spoke about conservation programs based on education and provided by the NGO partner. An example was the *Rim of Africa Trail*, which had a strong conservation focus.

Local communities were empowered to take ownership of their section of trail through the creation and support of appropriate structures. Landowners saw trail visitors representing economic value through tourism and were then more motivated to engage in conservation, as well as infrastructure utilised by the trail. To achieve its conservation efforts, the Trust partners with other conservation groups, such as Cape Nature, Mountain Club of South Africa and the Cape Leopard Trust. Other programs include the Conservation Heroes Award. Another trail manager described one of their conservation programs:

So we have one program to engage school systems near the trail, it's a professional development program for teachers. That is sort of a way to build awareness and try to get schools and teachers thinking about how to use the trail really as a, almost a living laboratory, a way to extend the opportunities for learning around place space and service learning education. So using the trail to help students to understand the immediate community around them, especially from a natural resources perspective. And also introduce the concepts of service learning. (Belinda)

Faye described her trail's contribution towards water quality and monitoring: "We've got groups that go around that test stream water for different organisms and the whole nine yards of PH and acid rain." The Clean Olle environment purification campaign is the conservation program for the *Jeju Olle Trail*.

5.6.3 Conservation corridor

Most trail managers with trail sections outside of protected areas agreed that the creation and protection of conservation buffer zones along a trail were a vital aspect of their management. Some trail managers considered their conservation contribution to be minimal and limited to their trail corridor, such as Faye: "We are a little light on the conservation side, but basically we try to protect what's there. In our, like corridor monitoring system, we are protecting whatever species and that kind of thing we have there." A few trail community organisations had volunteers specifically allocated to conservation roles, but being dependent on volunteers meant that any action would only occur if positions were filled. "We've had conservation chairs come and go. [Volunteer role] hasn't always been filled" (Faye). Protection of the trail corridor also included proposed developments and Belinda spoke of their efforts in retaining a natural experience.

But we also do land protection, I guess, in a more general sense, we are really trying to protect a primitive hiking experience, so that if we have incompatible development that is happening around the corridor, we try to mitigate that by working with developers.

And if that doesn't work, you know, we will go to public hearings and send letters, and at times we will go to court, it depends on the issue that we are dealing with. So our role tends to be a little more focused on advocacy for the trail, than the [department] could legitimately do as an agency.

Some trail managers spoke of the impact of global climate change. Firstly, from a policy perspective: "We do have a climate change policy as an organisation, recognising it is a problem. We've done some climate change modelling. We've worked with the [conservation NGO] to do some predictive modelling" (Belinda). Secondly, from an infrastructure impact and construction standards perspective: "Because of global warming we've taken culvert from this size to this size to cope with the amount of water that is coming off the hills" (Frank). Finally, conservation efforts are encouraged through funding links and opportunities, as described by Frank:

The area had gone to 15, 20 feet. We've essentially brought as much of the grass back to the path as we could. We had partnered with the farmer who actually farms on the land, who potentially, there was going to be conflict there, because he was receiving funding for the square green acreage he has. The path had caused damage that he could lose [country] funding for green acreage. Improving the trail and confining users, keeping them away from green pastures and ensuring maximum pasture. It benefitted the farmer, and the land owner.

5.7 Infrastructure

Infrastructure represents the core operations and also the area of prime expense. It is predominantly the main purpose of existence for the community trail partners. For example, the Arizona Trail Association spent US\$211,000 directly on trail maintenance and construction in 2011, which made up two thirds of their overall expenditure and was in addition to general staff and office overheads also dedicated towards this (ATA, 2011). Therefore, analysis of infrastructure maintenance and development is an area where financial savings can impact the overall financial viability of the trail. Chris suggested a rough budget estimate for infrastructure maintenance would be 5% of the overall trail value: "I would have, (...) it would be 5%, the value is US\$21 million, I've got a million bucks a year for what is the maintenance, repair, replacement." A key difficulty is establishing the overall value of the trail, and whether this is purely the infrastructure, or the value it represents in terms of economy and health benefits.

Table 14: Infrastructure liabilities overview

Trail	Overnight shelter	Accommodation off trail	Wild camping	Extensive trail
<i>Munda Biddi</i>	✓			✓
<i>Nga Haerenga</i>	✓	✓		
<i>Appalachian</i>	✓			✓
<i>Arizona</i>			✓	✓
<i>Pacific Crest</i>			✓	✓
<i>West Highland</i>		✓		
<i>Lechweg</i>		✓		
<i>Rim of Africa</i>			✓	
<i>E-Path</i>	N/A	N/A	N/A	N/A
<i>Jeju Olle</i>		✓		

5.7.1 Infrastructure liability

Trails had a variety of infrastructure liabilities, with the major differentiator being constructed on-trail shelters versus accommodation provided privately off-trail, in communities. Trail infrastructure in the USA and Australia differed significantly to Europe, Asia and Africa, with New Zealand falling somewhere in between. Trails in the USA and Australia were far longer and all had substantial infrastructure in addition to the trail, such as overnight shelters and toilets (Table 14). The infrastructure of the *Munda Biddi Trail* consists of twelve shelters, each with tent sites, toilets and rain water tanks. The fully marked trail crosses numerous bridges, including a couple of larger trail suspension bridges. More than 250 three-sided shelters exist along the *Appalachian Trail*. The *Pacific Crest Trail* only has a few shelters, and the *Arizona Trail* has none.

Infrastructure in the other countries did not include overnight shelters and consisted of the (often shorter) trail, bridges and signage only, as described by Steve: “Temporary. A tent. You carry your infrastructure on your back.” Maintenance requirements increase with the level of infrastructure and different trail management models were responsive to this relationship.

5.7.2 Land owner or a managing body responsibility

The European trails were managed by the local government or other government land managers, primarily by paid staff. “Each local authority area, or national park [department] boundary, looks after and maintains that section of the route” (European participant). In another European country, trail infrastructure maintenance was the responsibility of the local government, whereas the overall management was with the local and regional tourism organisations. A European participant said:

Maintenance is the responsibility of individual destinations, primarily through paid staff. Mostly the [part of local government] undertakes the maintenance tasks, an institution

of the local community or town responsible for infrastructure maintenance and management. At times, I will undertake basic tasks directly, such as way marking. Similarly, volunteers undertake way marking and other occasional basic ad hoc tasks, generally organised through each destination.

Some form of partnership oversaw the overall objectives of the trail, set standards and sought funding for larger projects. Community managed trails primarily utilised volunteers for tasks unable to be carried out by general volunteers. In the USA and Australia trails were managed through a partnership model made up of a state or federal government and a community organisation. This managing body would have prime responsibility for infrastructure across all tenure. For some trails in the USA, the managing body received additional support from those governments whose tenure was traversed. For the Australian trail, the managing body would maintain what was specifically built for the trail, and the more generic infrastructure was maintained by the land owner/manager. Access to the land was usually secured through an agreement with the land owner.

5.7.3 NGO maintenance

High infrastructure liability corresponded with high volunteer engagement through a partnering NGO in this study. Trail infrastructure of community only managed trails was minimal and for the *Jeju Olle Trail* consisted of upgrading forgotten paths, short newly built connections and signage. The *Rim of Africa Trail* had no infrastructure at all. The government and NGO partnership model was applied for those trails that had the most infrastructure. The Munda Biddi Trail Foundation operates a volunteer maintenance program where each section of trail is adopted. An additional advanced volunteer program allows use of powered equipment, such as chainsaws and brush cutters, and delivery of corporate programs. Low security prisoners, through the Department of Corrective Services, provide additional labour. For the *E-Paths*, each section is managed and maintained by its own country, including infrastructure, signage and insurance. The *Lechweg* has a small volunteer program for trail marking, but German and other European trails are often not considered as an individual trail, rather a regional network. This corresponds with regional based maintenance undertaken by an NGO, such as the Deutscher Alpenverein.

Without the community and volunteer support, trails would often not have been built in the first place, and could not be maintained. “If they don’t put in the volunteer efforts, the parks cannot support them. The parks cannot afford the maintenance on the trails. They finally came around to, well, they want a trail to play on, they had to put the effort in, in working on it” (Faye).

For these trails, volunteers played a key role in maintenance and management. The details and differences were discussed by the following trail managers:

The [community organisation] works closely with all land managers to identify priority projects for the [trail] for the year. (...) The [community organisation] applies for dozens of grants to help support trail maintenance and other activities. We rely on volunteers for most trail maintenance and construction (over 15,000 volunteer hours in 2013) but also spend [US\$50,000 - \$75,000] each year on paid professional trail crews. (Nick)

We have seasonal summer trail work crews (volunteers), we may have four or more weeks in [park name] or the [park name]. And during those weeks the parks service pays for the food for those crews. (...) In the early 1990s we still had a lot of people that were building the trails in the 30s. They packed the volunteers in the back of these trucks, like cattle. They sat there splayed leg, between each other, as they all car pooled out to the mountains, to build the trail. It was incredible. Not that many young ones coming through. (Faye)

Most of the groups working on the trail are not incorporated as separate (...) organisations. (...) One of the things I think that works well with this model is that we're not competing with all of these groups to raise funds for the same trail. So rather than having all of these different groups out there raising their own money we're supplying resources to these groups that are working on the trail. So we provide resources where we can or supervising the volunteers and making sure they're fed and those types of things. (Betty)

Don suggested corporate volunteer programs seem to be working well, but these also require support.

Well what we've seen on a couple of trails, is that the volunteers have been linked to big businesses. (...) So for example one of our banks closes on a particular Friday once a year, and all the staff go out on community programs, and some of those programs are cycle trails. So we are seeing the bigger corporates stumping up with some pretty generous offers of their staff time, to go and do some particular things on some particular trail once a year type arrangement (...). The trail doesn't have to make any payment back to that entity at all.

5.7.4 Basic labour tasks

The comments above demonstrate a high level of volunteer involvement in infrastructure maintenance. Trail maintenance incorporates an extensive labour component, mostly simple tasks such as pruning, clearing and trail tread erosion work. This makes it suitable for large numbers of people who do not require extensive training. For many trails the more advanced tasks, which required a higher level of training, were undertaken by paid staff, though some trails had upskilled volunteers. This included building or maintaining large bridges and more complex shelter constructions.

5.8 Tourism operations

Operating to create profit for the region requires coordinating and maximising marketing and promotion, as well as strategic destination development. Table 15 shows that only the European and New Zealand trails considered this their core business. The split was very similar to that of the infrastructure liability with the USA and Australian trails, standing in contrast to European trails which considered marketing and promotion their core business with dedicated tourism programs (Table 15). Essentially the trails with a community related recreation and health focus were less interested in marketing and promotion, whereas those viewing trails as delivering economic opportunity to local communities saw benefit in being a tourism product.

Table 15: Tourism model application overview

Trail	Core business	Reactive	Promoting trail	Promoting organisation activities	Promoting activity
<i>Munda Biddi</i>		✓	✓	✓	
<i>Nga Haerenga</i>	✓		✓		
<i>Appalachian</i>				✓	✓
<i>Arizona</i>		✓	✓	✓	
<i>Pacific Crest</i>		✓	✓		
<i>West Highland</i>	✓		✓		
<i>Lechweg</i>	✓		✓		
<i>Rim of Africa</i>		✓	✓	✓	
<i>E-Path</i>					✓
<i>Jeju Olle</i>		✓	✓	✓	

5.8.1 Tourism versus recreation model

There was a split between those trails operating under a tourism model and those that were not. The USA and Australian trails promoted their NGO operated activities, such as guided walks, volunteer and conservation workshops. Betty considered the tourism aspect a low priority and applied a reactive approach to promotion:

That's one that always gets pushed aside because taking care of the trail seems to be a higher priority. What we're doing right now - we don't have a plan but we are taking advantage of an opportunity that has come our way. There's a major motion picture being made and the story takes place on the [trail]. So we have been - we've formed a marketing team internally to take advantage of the increased publicity from the movie. So I guess you could say that's our marketing plan for the year.

She described the purpose of promotion as “not necessarily [increasing numbers], but an increase in awareness is what we're looking for.” This was echoed by Will:

We don't promote to encourage more people to get onto it. We do promote sometimes to different segments of population, to use it in conjunction on however they use recreation. Families maybe, ethnic groups, encouraging people from inner cities to come out. We are not in the business to promote the use of this trail. We do promote use of the outdoors and to experience the outdoors.

Belinda supported the quest for inclusion of minority groups and specifically targeting them in promotional activities:

We are not necessarily looking for more users, we are, you know, at some point we are interested in more diverse users. We tend to be fairly, the demographics in the [country] are changing here, so in, I think the [year] number is 2040, where our minorities are going to be majorities. You look around the trail community in the [country], the [trail] certainly and the world, pretty white and, you know, not very diverse. And that somewhere down the line is going to have an impact on the resources that we have, and the relevance of the trail.

Faye talked about their marketing in terms of information communication:

We do it through our newsletter, we do it through our website. So people know what we do and where our trails are. But it is more of a – this is us, and this is why we are here, and come out and play on our trails type of thing. We don't do for getting money, or that kind of marketing type thing. It's more of we are providing a service for that portion of population that likes to be outdoors. You can rent our cabins. You can hike our trails.

Trail managers who worked within a tourism framework could see the positive outcomes of this approach. Once sections of the *Jeju Olle Trail* opened, it was recognised that it revived the local

economy and changed travel patterns. The local bus company started to make a profit and many traditional lodging houses were transformed to modern guesthouses. Some participants noted the importance of government recognition and destination support of trails:

And there is a much more subtle drive from the [country] government to recognise the importance of these routes. And, I think, there is the [country tourism slogan] drive, the tourism angle, we realised this is a, you know, a great plus for the country. (Frank)

Don, who had been involved in new trail development said:

So because the trails are new, they've decided that it's a good priority to put money into and it's a quick way of getting visitors to their region. So there doesn't seem to be any shortage of tapping into the existing marketing infrastructure.

The path towards a tourism model with marketing and promotion is described by Don:

When we started the project the mandate that it had was to really build the trails, it wasn't to promote them. We started off having our team as primarily around risk management (...). Partway through that, it became fairly obvious to us that to realise the full benefits for the trail, we really had to have an external marketing approach or plan. We extended it to tourism [country] which is our national body, and we had a deliberate strategy to get close to those people and to utilise their network as much as possible. It's been amazingly successful, to the extent that we could close up our national group right now and let tourism [country] be our marketing agency and it would work fine.

According to Don, regional tourism organisations also had generous budgets and were keen to assist with the promotion of trails. A board was specifically set up to oversee a network of trails, described as:

That board has got five key functions, obviously governance function, it has got an advocacy function, it has got a quality assurance function, it has got a sort of network type function across the trails, to make sure they keep working together. Then obviously the outward marketing and communications.

5.8.2 Tourism concepts

Operating a trail as a tourism product within a destination was not well understood by most trail managers. Most managers did not consider tourism aspects part of their responsibilities, or fully understand tourism concepts within a business model. Betty was representative of most

managers: "I'm not familiar with tourism models. Maybe we should be. Develop a plan for increasing awareness of the [trail]." On asking another trail manager if she spent much time on product development, like the tourism marketing model and branding, she replied "No" (Faye). In contrast, some trail managers had a very clear understanding of tourism, its benefits and requirements. One trail manager described himself as "I have a bit of background in marketing" (Frank).

The trail community concept and its benefits were understood by most trail managers. Even though most trail managers had a low understanding of tourism concepts relating to their trail, there was a good understanding of destination development. Most trails had more or less formally developed trail community programs, with the objective to provide coordinated services to trail users and create economic opportunities for communities adjacent to the trail. Some were in early stages of development and others had seen extensive trail related business growth and community support. These ranged from supporting and educating communities to providing community development, as stated by Belinda:

We would not necessarily do that [marketing and promotion], but more give the communities the tools to market themselves. They understood the opportunity to market this for themselves as a trail town. As these tourism professionals are starting to awaken to the tourism aspect, they are starting to build that into their marketing as well.

A more involved approach was identified by Don, who also outlined this in terms of economic opportunities:

Well, theirs would come from - we've got an official partner program and some of the trails have got up to a hundred partners, and those partners are the people that own the accommodation and the guiding companies. So they make quite a lot of money themselves, and basically the fees for the official partners is available for the local people to do their own marketing.

This approach was supported by Frank:

We actually grant permission to use our logo, and provide a list on how they can use it, what the restrictions are, basically to cover ourselves. If they did something that put the [trail] in disrepute, we would revoke their license. That way we retain quality. [Government agency] own the brand on behalf of the trail. One of the things they don't seem to realise, that I have to remind them every now and then, they pay for publications, which is great. They pay for their ad on the website, which is great. But

they seem to forget that we do an awful lot of marketing and promotion (...) to generate business on the [trail], and to generate traffic to their businesses. But what I also do on a regular basis is radio interviews, television interviews, or if there is an event happening on the [trail]. (...). We go to trade shows. They could not afford to do all of these things. Businesses in that area have reported that they get more business.

5.8.3 Tourism model trend

This research identified a trend towards a tourism model approach, with several managers seeking input to extend and strengthen this aspect of their trail. Most trails had a merchandise program, and were seeking to maximise promotional opportunities if they arose, such as trail related movies, songs and books. Some had fostered marketing relationships, such as South Korea and New Zealand national tourism organisations promoting their trails. The programs of the European Ramblers include tourism related accreditation awards, voluntary walk leaders' certification and training, and the 'Leading Quality Trails' certification program. The *Munda Biddi Trail* also has a business accreditation specific for cycle friendly services. High visitor numbers have an impact on tourism services, such as the estimated 1.2 million on the *Jeju Olle Trail* in 2013. Some looked at other successful trail models when considering options for themselves.

The Otago Central Rail Trail [...] is a really good base line project for us, because it's been there for about 20 years, and it's been successful really for the last ten. What they found was that when they replaced all of their very - well one by one, their very poor level of accommodation with quite nice rooms with ensuites - suddenly the numbers started to take off. So it's one of those situations, you have to invest - you'll get your base line of people in pretty rough conditions. But to attract the different layer of individuals you need to up the quality of the accommodation. (Don)

Some trails were limited by their philosophy, such as the primitive footpath experience of the *Appalachian Trail*, which does not allow any type of commercial operation. The customer focussed approach could be identified as a guiding principle by tourism focused trail managers in regards to services and saleability of their product.

It's a beautifully packaged expedition. The security blanket of getting accommodation, having a drink, being able to get fed and not being out in the wilds. That suits the bulk of the population, I think. Beautifully packaged product. Generally easy access, public transport. (Frank)

The customer focus was also key for the development and management of standards, as described by Frank:

So we came up with the idea of [country trail slogan], have you heard of that? We came up with that idea so we can try to drive standards, basic things like way marking, even consultation with landowners, marketing and promotion and support services. So that there is a consistency in [country] of what people can broadly expect. Particularly for foreign tourists who may get disgruntled. (...). How to actually provide hygiene issues, like toilets facilities along the route is a really big issue. I think what we need to do now, that we understand the importance of this activity to the economic development for [country] and tourism, we now need to look at other models in [region] that are good examples, and basically build a better quality product. (Frank)

Merchandise and publications were discussed as an income source in the earlier Funding section, but some trail managers considered them a visitor service, such as maps and apps. “The marketing and the set up cost is probably going to outweigh the income. We are probably losing money in that instance. Just because the cost of producing them is far outweighing the number that are getting sold” (Faye). Similar views were associated with events with most of the recreation focused trail managers offering a range of, primarily low cost events. Frank, a tourism oriented trail manager considered events an economic driver for the local economy. “It brings in such a lot of money for the local area. That politically, and economically, we certainly wouldn’t want to work to ban it. It’s just one of those other things that happens on the [trail].”

5.9 Ideal trail management model

When asked to describe their business management model, most trail managers said that they did not really have a model as such. Several indicated that they got ideas and concepts from other trails. “But really no; we learn what we can from the Appalachian Trail Conservancy but we’re not working off of a model” (Betty). Managers could describe their activities and have a goal they are working towards to further their trail and model.

5.9.1 Trail business management models

No trail business management models were identified or purposely applied. Steve talked about a trial and error approach, based on other models for their trail management model development:

The *Appalachian Trail* works with section clubs. I think we are going to work with a very similar kind of structure, where we’ve got a particular champion who is identified in the

landscape, who is responsible for a certain section and is responsible both for the maintenance of that section, the oversight of that section, the promotion of that section potentially as well, to some degree. So really, in a sense, a little bit similar to the *Tarawera Trail* in New Zealand, where you've got the separate trusts that make up the whole trail. I think that's kind of the way we would like things to go, moving forward. That really the trail is managed by the people whose land it goes through, who in a sense own it, and by the users. I think we are going to have a stronger volunteer structure going forward as well. (...) It's a very organic model that we are following, Kerstin. It's not a top [down] based approach. It's very much an approach – well, this is what is working, so we go with it. What doesn't work we'll kind of leave and move on.

5.9.2 Government and NGO partnership

A government and NGO partnership, such as the *Appalachian Trail*, was generally seen as the ideal model by all trail managers. Another trail manager also looked at other trail models when considering how to best improve theirs:

Actually the model I quite like is that of the Appalachian Trail Conservancy. And they have a core of people who are fulltime permanent members of staff. And I think they coordinate the work the volunteers do along the route. And because there is some money out of [National Park], I think there is some money out of [National Park], that would actually be ideal, because then you've got all sorts of protections, legal rights and responsibilities. That would be a nice model. And lots of money. (Frank)

The partnership model was generally supported by all trail managers working within such a model, and also some that did not, as described by Betty:

I guess we'd call it cooperative management, meaning it's a cooperative effort between the public sector and the private sector. Well, I think one of the benefits is being able to recruit volunteers and use volunteers to do most of the work on the trail and I think it takes special skills to be able to build successful volunteer programs and that's something that as the private partner we're able to bring to the partnership is the volunteer recruitment, management and coordination. So I think that's one of the advantages of that model. Having the – well, I think here in the [country] with our vast amounts of public lands that I think having the federal government involved is a necessity.

Wendy said:

The cooperative model works well and actually, the [trail community partner] is an exemplary example of partnering and can be used as a model for the future as federal funding is stretched and we rely more and more on cooperation with various partners to accomplish the [department's] mission.

As described earlier, the cooperative model comes with certain risks. Political vulnerability, government funding dependency and budget cuts are considered some of the greatest threats to the trail by several trail managers. The development of independent income streams is required to achieve financial sustainability. Belinda said that “this cooperative model is probably slightly better than straight government, as parks are easy picking for funding cuts. This is cushioned through volunteers, which are more cost effective.” Another aspect of the government partner model is outlined by Will:

Besides the money issue, having long term public support for the [trail]. Just in general, the general public support for the outdoors is declining in this country. Eventually, without good public support, we could have members of government saying, we don't need that particular park, we can sell it. We don't need to maintain that particular trail, that particular forest. We should turn it over to housing development or something else. That's a real worry for me, long term.

A top down approach was considered vital in the timely development of trails for Don:

That really meant we could do what some people would have thought was impossible, to actually roll out 2,500 kilometres. Now the challenge really is to continue that same motivation and enthusiasm through the marketing people and the business owners along the trail. Make sure everybody's cycling experience is absolutely positive. Yeah the model was great, and the main thing that we had was alignment, from the prime minister down through to the government agencies like the [conservation department] and the organisations that own the land, the roading people, [name of transport department]. That alignment just meant that everyone was really on the same page and we had the same vision. The cooperation and support we got to not only find the route through other people's land, but also for the construction of it was first class.

5.9.3 Improvements

Most trail managers expressed satisfaction with their current model, despite not being able to describe or identify it and suggesting a range of improvements. Satisfaction was generally based on surviving financially and achieving set outcomes.

I don't think there is a problem with what we have. We've got such support from the government partners, and then we've got [trail organisation], that supports and funds. You know, a lot of the smaller clubs don't have the bank accounts that we do. I think what we've got going has worked for enough years that I think it will continue, provided the population continuous in the way that it is. And no natural disaster impact. (Faye)

Many trail managers could identify and would like to implement improvements to their model and ways of operation.

I think there are probably folks, that when they look back, and they look at the structure of our club system (...), I think that there could be value in having them more closely affiliated with us from a business structure, like they would be chapters of our organisation. Because then we would have a little bit more authority over them probably, then what we sometimes have now. And there may be other responsibilities that go along with that, like they are expecting so much funding from us to do other things, but their memberships would be our memberships (...). There are some clubs that share memberships with [organisation], but there are a lot of clubs that have a standalone membership" (Belinda).

This idea was supported by Will: "Ideally one entity that takes care of the trail and has the agreement with the federal authority. Or at least clubs need to be chapters of the trail association." Streamlining of internal communication and reporting channels were also on Rita's improvement list:

I wish, especially for the [trail], for better interaction between the tourism related project management and the work related local communities. Generally, we would only be informed about completed tasks afterwards. Ideas are not discussed with us. We are lacking sufficient financial means to undertake sufficient project management. Ideal would be a second person who would specifically deal with quality management of the [trail]. That would mean regular checks of the way marking and signage, regular control of the trail conditions, such as trees down and damage to the trail from river washouts, communication and agreements with forestry and local government. This second

person would require basic equipment and materials, as well as a vehicle, to be able to respond quickly when issues or damage arises. A similar model is used in [city] through the [name of NGO infrastructure management company].

The lack of staff issue was echoed by other trail managers, some with big picture improvement ideas, such as Frank:

Have the [trail] under one management group, and have a team of rangers that just look after the [trail]. Myself, a small team of specialist staff that look after the [trail] and a team of rangers that are dedicated from start to finish. I would really love to see things like an apprenticeships scheme. So we are actually employing people out of the local communities and training them in path construction and all the usual stuff that goes with it. It would be nice to share those skills.

Several trail managers talked about improvements to their financial viability through different structures within the organisation and management.

I'm trying to set up to organise a [trail] management trust, purely because of all the commercial activity I do, can actually go to this trust. And the thing about having a trust in [country] is that, it is a charitable organisation, so they potentially don't end up paying [tax]. Potentially they can claim far more money from public agencies and they also have the big advantage of being able to plan maintenance over a longer period. We get a budget allocation, and what is spent, capital or otherwise, is spent within the financial year. A trust doesn't have to do that. (Frank)

The last interview question was to ascertain if everything had been included in the questions and participants felt that their responses had been complete. Participants indicated that all key areas had been covered, as expressed in these comments: "No, I think you have pretty well covered it" (Will). "I think you have done a great job, very thorough" (Faye). This completes the feedback received from the interviews with trail managers.

5.10 Revised conceptual framework

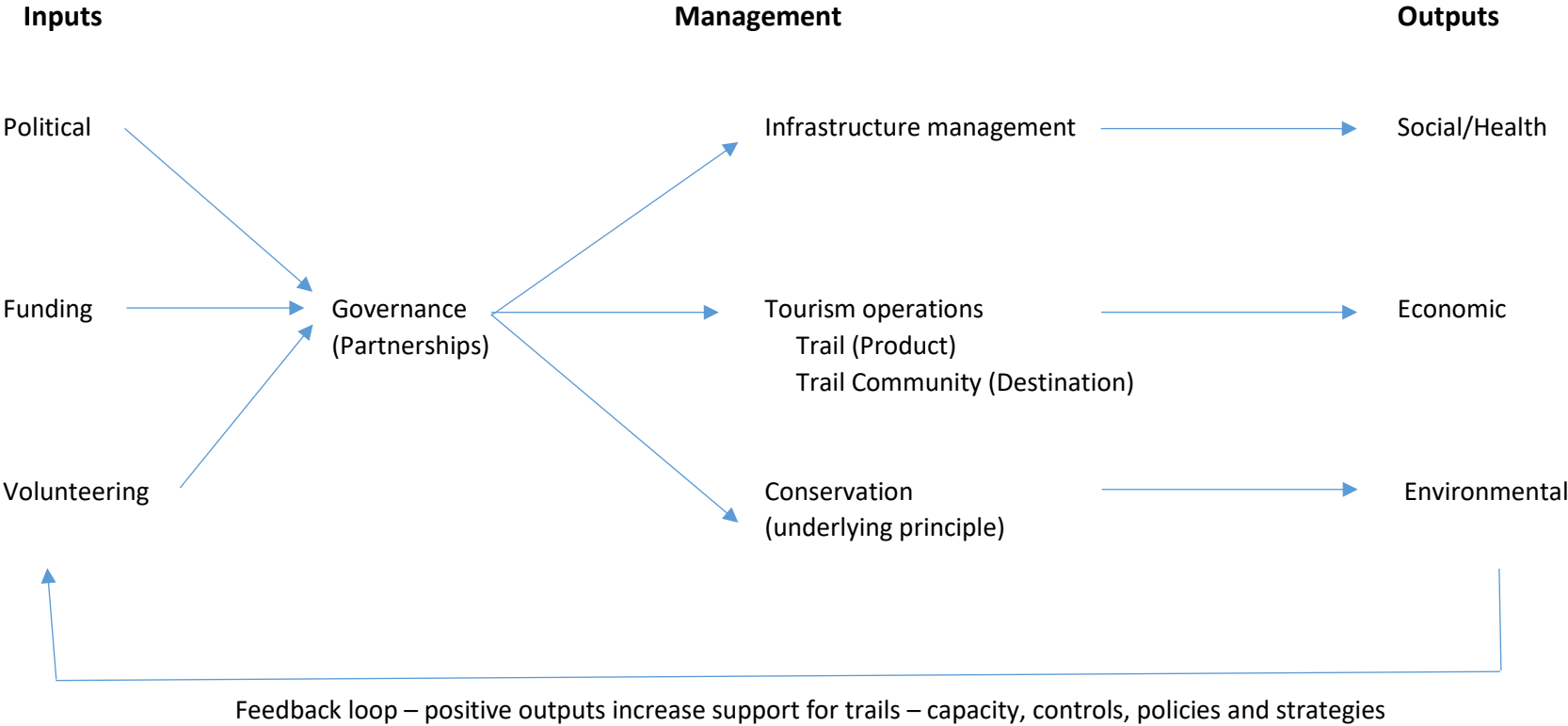
The development of a theoretical proposition in case study inquiry is beneficial and guides data collection and analysis (Yin, 2014). This revised conceptual framework offers a process based flow chart that provides an overview of trail inputs, processes and outputs, in other words how trail management functions. The key inputs are the external factors influencing trail management: political, funding and culture of volunteering. These feed into governance, which

incorporates purpose, resource ownership, management body and also partnerships, where applicable, which is loosely based on Eagles (2008a, 2009). Through the governance process objectives are determined, such as infrastructure management, tourism operations and conservation, how to pursue them, and with what means. Not all trails will choose to deliver all three main objectives, but all trails will require infrastructure management as their prime operation. Tourism operations are relevant for regional and nationally significant trails, but perhaps not for local trails. Tourism operations include the trail itself and also the trail destination. Conservation was an underlying principle for all participants, while some engaged with environmental operational aspects. The outputs are social and health, economic and environment, which, depending on their successful achievement, provide feedback and support via inputs. Through the revised conceptual framework, a better understanding can be gained about the different components of trail management and their relationship, including inputs and outputs.

What this conceptual framework does not cover are determinates of 'good' or financially sustainable management. The different management body combinations cannot be presented with their relationship to the infrastructure liability. To be financially sustainable the expenditure and income needs to align, which means that the operations need to be relative to the available resources. A different model is required to address financial sustainability, the prime objective of this research.

The revised conceptual framework has been adapted and amended from the initial version. Both versions are process based, but the revised framework broadens the view to include political, funding and volunteering aspects. The original framework focused on infrastructure, product and destination, some of the key trail management components, and broke them down into more detailed tasks. It further identified how these can be achieved, the partners involved and potential income sources. Some of this is included in the management and financially sustainable models, which are presented in the next chapter.

Figure 25: Revised conceptual framework – a process approach



5.11 Chapter conclusion

This chapter provided the interview findings of the ten trails in this research, which will be used for comparison analysis in the following discussion chapter. The trails were chosen from several continents and countries to explore a wide range of models within diverse cultural and government environments. Factors external to trails, but affecting them, were legal and national government systems, culture of volunteering, as well as national funding models. Different funding models were discussed, suggesting diverse income streams and government and NGO partnership models were the most financially sustainable. Described trail governance models included government, government partnerships, government and NGO partnerships and lastly sole NGO. Conservation was described by all trail managers as part of day-to-day operations, with some viewing trails as a vehicle to achieve a higher level of environmental protection and awareness. Tourism models were contrasted with community focused recreation and health, each having a different focus in terms of visitor needs, as well as product and destination management. Most trail managers indicated satisfaction with their own trail management model without being able to refer to a formal model. They acknowledged that external influences affect how trails can be managed successfully in different settings. The original conceptual framework was compared and reviewed against the revised version, with some similarities, but moving to a broader view in the revised version, which is focused on the factors influencing trail management identified in this research. The revised conceptual framework assisted in the exploration of trail processes and it informs the management model discussed in the next chapter.

Chapter Six – Discussion

In this chapter the findings are discussed and analysed against the available literature, drawing out similarities and differences. The findings for each trail component, as well as the overall governance models and the conceptual framework, were analysed and positioned in regard to the broader tourism in protected area concept. The political environment was shown to have relevance for trails in regards to legislation, political direction and public liability. Funding was identified as both a threat and offering new opportunities in diversity of income streams. Expenditure reductions were discussed in opposition to income to achieve financial sustainability. Volunteering was part of expenditure reduction, but also provided many other benefits. Eagles' (2008a, 2009) governance models provided the basis for reviewing, analysing and developing trail specific models. The governance body was supplemented by partnerships to manage the multifaceted trail aspects. Conservation was one of the trail aspects, often considered an underlying principle, but also an area of community participation through trails. Different levels of infrastructure liabilities pointed to unique management models. The concepts of tourism were broadly understood by most trail managers, who could see the opportunities for their trail in the application. Trails were managed for different purposes, such as economic, recreation or conservation, in different environmental and cultural settings. The ideal model, therefore, needs to be responsive to the purpose and settings.

The suggested 'best model' is described at the end of the chapter, which summarises the key findings in terms of financial sustainability. It identifies the management body, volunteer contribution and infrastructure liabilities as the determining factors for success. Tourism operations can further improve the financial gain. Political factors represent the broader framework for the trail.

6.1 Political

Trails in this research were required to be long distance and pass through protected areas. Limited trail-specific literature in the larger political context required the broadening to protected areas and tourism. The requirement and impact of a legislative system for protected areas and trails are discussed next. This sits in combination with the political direction that informs law, funding and governance. The public liability section describes the bottom line of responsibility.

6.1.1 Legislative systems

Lockwood (2010) states that democracy, human rights, free elections and the rule of law through an independent judiciary system are key criteria for protected areas, which was also supported by other authors such as Graham (2003), Eagles (2008) and More (2005). Protected areas generally rely on a legal system for their official acknowledgement and conservation status. Graham et al. (2003) and Borrini-Feyerabend (2013) suggest that history, culture, legal issues and capacity are factors identified as influencing governance of protected areas. Legislation identified in this research supported protected areas, as well as other trail related aspects, such as access to natural areas (private or government owned), tourism, traffic and volunteering. Newsome et al. (2013) state that nature based tourism relies on access to natural and protected areas, including roads and trails.

To develop, manage, fund and protect trails some countries in this research have specific legislation, such as the *National Trails System Act 1968* in the USA. Downs (2000) discussed the uniqueness and importance of this Act, which not only set out an entire federal trail system, but also a requirement for co-management between government and the community. Another country with trail specific legislation is Scotland. Here legislation, such as the *Countryside Act 1967*, the *Land Reform Act 2003* and the Scotland Outdoor Access Code, were required to permit access to the primarily privately owned lands for recreation, including trails. Initially the focus was on access, with later legislation focusing on minimising conflict between land owners and visitors through limiting areas and promoting appropriate behaviour. South Australia is the only Australian state that has trail specific legislation, the *Recreational Greenways Act 2000*, which provides for the establishment and maintenance of recreational trails. Four of the ten trails in this research were supported by trail specific legislation, in the USA and Scotland. The Australian *Munda Biddi Trail* is not in the state of South Australia, so the *Act* there did not apply. All countries with trails in this research had a legislative system and a variety of acts supporting trails generally.

6.1.2 Political direction

In addition to the existence of a legislative system, each country is likely to have different political views and approaches in regards to trail related aspects. Borrini-Feyerabend et al. (2013) discuss differences including the purpose of protected area tourism, whether it is for recreation, conservation or as an economic driver. According to Eagles (2008a, 2009) purpose informs the governance model, and is therefore discussed in the governance section under 5.4 Governance. This research showed that a trail's purpose can change over time, reflective of

bigger picture governmental direction. In particular a trend towards a tourism model was observed, positioning trails as a regional development economic driver.

Another aspect of political direction relevant to trails is their funding. Protected area legislation determines how money can be raised and where it is spent (Eagles, 2008a; Lockwood, 2010; More, 2005). Some of the trail specific or relevant legislation sets out how trails are funded and whether it is a government provides, user pay, or somewhere in between model, as discussed by Downs' (2000) review of the USA *National Trails System Act 1968*. Political directions and changes in administration of trails, in particular funding, was a key concern for participating trail managers. Most trails were highly reliant on government funding and any changes, in particular reductions, could potentially have significant implications for trail managers. Hill (2012) and Shea (2012) discussed funding cuts and closures of parks and trails around the world after the Global Financial Crisis in 2008. If not already the case, this made trail managers aware of their government funding dependency, with a push to diversify income streams. The Funding section explores these issues more extensively.

6.1.3 Public liability

The public liability question is a reflection of how legislation affects trails. It was included in the research to establish who holds final responsibility for trails and to test the relevant country's legal system. No literature had been identified which addressed public liability for trails, but this research found that public liability varied for each trail, even differing within one country. It depended on a combination of laws and local agreements between land owners and trail managers. In some countries, and for some trails, land owners' responsibility was taken over or shared by trail managing agencies through an agreement. In other countries land owners were responsible for keeping the trail safe and obstacle free when they gave permission for the trail to cross their land. Trail managers could cite only a few personal injury incident claims with a wide range of remediation, ranging from preventing an event from reoccurring to cost sharing of claim payouts. The 6.4 Governance section deliberates political relevancies for trails specifically.

6.2 Funding

Several researchers described the economic benefits trail visitors bring to their region, such as Lane (1999), Beeton (2009), Bushell et al. (2007), Eastin (n.d.) and Faulks et al. (2007). It seems, therefore, fair to question who should pay for trail maintenance and management. Most of the trails in this research were primarily government funded, mostly through direct funding with supplementary project based grants. This funding commonly paid for trail development,

maintenance and land purchases (primarily in the USA). For many trails the community partner received funding from the relevant government agency for management and maintenance, utilising low cost volunteer labour and strengthening community ownership.

6.2.1 Financial concerns

This research sought, identified, analysed and described current best practice trail business management models around the world with a view to achieving financial sustainability. Funding and the search for financial sustainability was considered a prime motivating factor for this, and also similar research by Brinkley (2013) in the USA. The Convention on Biological Diversity (CBD, n.d.) definition of financial sustainability used for this research entails the ability to secure stable and sufficient long-term financial resources to cover all costs, effective expenditure and provision of satisfactory benefits to stakeholders. The Political section previously highlighted the vulnerability of and financial concerns for parks and trails. This had been raised as an issue by many authors, including Timothy and Boyd (2015), Brinkley (2013), Hill (2012) and Bushell et al. (2007). Most participants spoke of financial concerns, mostly future government funding availability, and were seeking to secure their funding sources. Those trails managed by an NGO in partnership with government usually received funding to undertake maintenance. The funding was based on a cost share arrangement, which required the NGO to contribute in-kind services and also some funding of their own. Meeting this financial contribution was difficult for some trails. These findings support More's (2005) concerns that the NGO partner struggles to raise enough money for financial self-sufficiency.

6.2.2 Diverse funding sources

More often than not trails receive a variety of income streams, such as funding, grants, corporate sponsorships, donations and merchandise (ATC, 2012; Forester, 2010; Potomac Appalachian Trail Club, n.d.). Multiple income streams were sought or applied for by trail managers, including from government payments and grants, some based on special taxes or regional development focused. Other income sources included entry fees, business operations, memberships, donations and sponsorships. The range of income sources identified was so wide and creative that a separate document was written to specifically describe these and provide ideas to the trails community. Trail managers actively sought to diversify their incomes and spoke at length of exploring and developing these with the view to achieve a higher level of financial security.

6.2.3 Expenditure reduction

Another aspect of financial management is expenditure reduction. As already noted above, many trails were managed in partnership with an NGO, which in part was in order to utilise

volunteer labour at a reduced cost. This supports research by Graham et al. (2003), More (2005) and Eagles (2008b) who identified government funding reductions with a push towards volunteer involvement, largely through friends groups. Graham et al. (2003) raise concerns with governments seeking to transfer functions to the voluntary sector to allow them to reduce funding. Specifically, Eagles' (2008a) model of governance for tourism in protected areas outlines a variety of potential partnerships, each with their unique form of financial benefit. The USA, one of the first countries with formal trails, established high volunteer participation to counteract expensive trail development and maintenance costs (Appalachian Trail Project Office, 1987). Downs (2000), Eagles (2009), Timothy and Boyd (2015), Namgyel (2011) and Ralston and Rhoden (2005) consider the use of volunteers crucial for sustainable trail management and saw a strong link to effective financial management. The Convention on Biological Diversity (CBD, n.d.) identifies the use of volunteers and charging user fees as vital strategies towards financial sustainability. As demonstrated in Table 10, all trails in this research used volunteers to some degree, and many participants commented on the cost effectiveness of volunteer use.

6.3 Volunteering

Involvement of community based organisations and volunteers is not just a cost effective form of management, it also strengthens relationships with local residents and provides satisfactory volunteer experiences (Timothy & Boyd, 2015). According to Ralston and Rhoden (2005), volunteers are a vital component in the sustainable management of trail organisations and are increasingly used as a workforce for trail maintenance.

6.3.1 Volunteer engagement

In countries where there is an active volunteer culture, trail management organisations utilised this resource. Therefore volunteer engagement levels varied by country (Table 10), with strong representation in the USA, South Korea, Australia and South Africa. The *Nga Haerenga* trails were managed through different groupings and styles, including paid and volunteer groups. Typically the European trails had little volunteer involvement. Lockwood (2010) and Eagles (2008a) discuss this heavy reliance on volunteer contribution for trail management, often through a government and NGO partnership model, as seen particularly in the USA. Newsome et al. (2013) note that volunteering is not as prominent in England and Scotland, with reliance on paid staff.

In addition to the prevalence and popularity of volunteering, the trails in this research which favoured their use also provided opportunities for more advanced tasks. For example, the USA

trails management was largely delegated to the NGO partner, which had some paid staff, but also many high level volunteer roles with advanced tasks. In contrast, the European trails used volunteers mostly on an ad hoc basis, for basic labour or marking tasks only.

6.4 Governance

Governance was considered central to the conservation of protected areas at the Fifth World Parks Congress in Durban in 2003 (Borrini-Feyerabend et al., 2013). It strongly influences effectiveness of protected area management, according to Newsome et al. (2013). With better understanding of the issues and benefits arising from improved governance, some governments have moved away from the traditional national parks model, such as in the USA, Canada and Australia, and replaced these with diverse forms of partnership arrangements, delegated authority and community management (Eagles, 2009; Graham et al., 2003; Lockwood, 2010; Newsome et al., 2013). Trails in this research are largely within protected areas, subject to the same land owner and often governance, and usually owned and or operated by public agencies, such as park services or NGOs.

6.4.1 Eagles' governance model

Governance for protected areas, in combination with recreation and tourism, has been studied extensively over the last decade (Borrini-Feyerabend et al., 2013; Graham et al., 2003; More, 2005). Only a few governance models were identified, with Eagles (2008a, 2009) refining these for tourism within protected areas. His three elements of functional aspects were resource ownership, income source and the management body, as described in Table 4. This allowed Eagles to analyse, critique and determine a ranking model (Table 5). He found that the public and non-profit combination was the highest ranking model, partially due to its financially efficient volunteer component. This was closely followed by the non-profit model. Medium ranked models were the national park, parastatal and for-profit models, whereas the aboriginal and community models scored the lowest. In addition to the three functional aspects of governance, Eagles (2008a) states that the purpose needs to be understood. He described the two intertwined goals of ecological integrity and sustainable tourism.

This research sought to develop a best practice model from the perspective of financial viability and sustainability, therefore performance and its criterion effectiveness and efficiency were of prime interest. Eagles' (2008a, 2009) governance model for protected areas was therefore a useful tool for analysing types of trail management models by drawing out key differences of the three functional aspects. This model guided the areas of investigation through interviews, the review of written documentation and on-site assessment.

6.4.2 Purpose

The purpose varied for trails, ranging from social, economic to conservation, often seeking a combination of objectives. Some trails were established for enjoyment and recreation, and to secure the experience and their environment for future generations, such as those in the USA. The purpose of the *West Highland Way*, reflective of other trails in the United Kingdom, was to secure access to the primarily privately owned lands for recreation. The *Lechweg's* purpose was to provide business opportunities during the summer low tourism season. Employment creation was the purpose of the New Zealand trails. Conservation awareness and individual growth opportunities guided the development of the *Rim of Africa Trail*. The pilgrimage experience of the *Camino Trail* was sought for the *Jeju Olle Trail*. The growing demand for mountain bike trails led to the development of the *Munda Biddi Trail*. Several of the trails can be traced back to a visionary individual who initiated their trail.

For some trails, the purpose has changed over time and a move towards economic and regional development was observed, which is discussed further under Tourism. The purpose, to some extent, suggests the income model, as discussed by Eagles (2008a, 2009), whether it be through tourism with income creation from visitors to the region primarily, or recreation, with provision of service for local residents through taxes. Decisions as to the trail model therefore include whether it would be a commercially viable operation, or a free community resource. For the trails in this research, diversity of incomes streams was pursued by most, with a view of move towards increasing self-reliance, and away from government provided. This follows the global trend towards user pay models, as discussed in earlier (Eagles, 2008a; Lockwood, 2010; More, 2005).

6.4.3 Governance model

The purpose influences the governance of tourism in protected areas, according to Eagles (2008a, 2009). Three prime purposes were identified in this research: social, economic and environmental. Recreation is often linked to health and wellbeing, which are considered social objective (Newsome et al., 2013; Torkildsen, 2012). Tourism is more likely described in terms of travel that creates economic benefits (Mathieson & Wall, 1982; Newsome et al., 2013).

The South Australian Trails Coordination Committee (n.d.) categorised trails as local, regional and national, based on their significance to each level. Local trails were primarily for locally residing users. Regional trails attracted intrastate and interstate visitors and generated significant economic benefits to the region. National trails were likely to have the highest level of infrastructure, attract intrastate and international visitors and generate significant economic

benefits to the state or nation. A recreational trail model, as a local trail, seeks to satisfy the local community needs, rather than the tourist (South Australian Trails Coordination Committee, n.d.). Economic benefits are limited as there is minimal travel and no tourism related services requirement, as suggested by Newsome et al. (2013). The regional, and even more so the national trails, would be considered tourism, as they require extensive travel to the location and access of tourism related services, resulting in money being spent in the destination. This model only addresses a small aspect of trail management and a different model is offered at the end of this chapter.

6.5 Partnerships

Components of trails, such as infrastructure, conservation and tourism, were administered through a management body, or through additional partnerships. This section covers partnerships outside the management body, which usually cover less important aspects or smaller components of a whole. Partnerships for tourism in protected areas, between a government conservation agency and an NGO, were generally considered an important aspect of sustainable management (Borrini-Feyerabend et al., 2013; Bushell et al., 2007; De Lacy et al., 2002; Eagles, 2008a, 2009; Laing et al., 2009; Laing et al., 2008; Seekamp et al., 2011; Wegner, 2007; Yang, 2011), and also specifically for trail management (Buckley, 2011; Downs, 2000; A. Hill, 2012; Lane, 1999; Namgyel, 2011; Selin, 1999). Partnership types varied from networking, coordination, cooperation and collaboration through to formal partnerships, as suggested by Fyall and Garrod (2005). Communities were an extension of trails with many varied partnerships, primarily covering trail communities, tourism aspects, trail stewardship, business and conservation.

6.5.1 Types of trail partnerships

Trails with an economic focus had tourism based partnerships for product and destination development, marketing and promotion, often in form of formal collaborations. A few trails placed themselves in the role of the destination manager with some income through business memberships, which also created an income stream. These trail community memberships or partnerships improved the visitor experience and supported the trail. Strong collaboration between the trail and its communities resulted in a single brand strategy, which is likely to result in considerable growth, according to Fyall and Garrod (2005). Most trails were working towards this goal and some had already been successful.

Some trails had partnerships for infrastructure management, in addition to the management body, such as smaller clubs or groups, which would assist for sections of trail. Hill (2012) had

suggested that partnerships were a key way to manage trail maintenance requirements with reduced budgets.

6.5.2 Cross boundary

Long trails usually crossed a variety of land tenures and other boundaries with different land owners or managers, which necessitated complex trans-boundary partnership arrangements. Partnerships of varying forms and formalities were often used to manage access to land, infrastructure, tourism and conservation across local government, tourism and park boundaries. Lockwood (2010) had discussed the requirement of a cross-boundary and tenure approach for protected area management to be effective, as it includes multiple land owners. Trails can act as a communication platform for cross-border cooperation for research, conservation, cultural or education exchanges, contemporary artistic and cultural practices and sustainable tourism, as discussed by Timothy and Boyd (2015).

6.6 Conservation

As the land manager of the protected area, a conservation agency was usually one of the members of the management body, whose role was to ensure conservation values were met. Many participants talked about the environmental assessment requirements for any new trail development, describing conservation as an underlying principle which underpinned all other work.

From the early 1900s national parks were being created in the USA and later in other parts of the world. A surge of interest in the natural environment and its conservation, combined with an increased desire for outdoor pursuits, led to the development of trails, as documented by Downs (2000) and Timothy and Boyd (2015). The IUCN provided definitions for protected areas with management categories, setting guidelines for those appropriate for recreation (Table 2) ("IUCN," n.d.). Trails are often located within, or traverse protected areas, such as national parks, state or local reserves and other natural areas (DEC, 2013; Graham et al., 2003; "NPS," n.d.; Timothy & Boyd, 2015). One of the criteria for inclusion in this research was that trails had to traverse one or more protected areas, details of which can be found in Chapter Three Study Sites.

6.6.1 Environmental benefits

Trails play an important role in protecting the natural environment through environmental education, such as interpretation and appreciation of nature. They also provide a conservation corridor, offer alternative transport routes and controlled access paths to natural or cultural sites (Timothy & Boyd, 2015). Conservation aspects are included in trail related legislation where

that exists, such as the USA National Water Trails System of 2012. Participants, especially in the USA, described the trail corridors as conservation zones. NGOs assist governments to purchase the trail corridor land for future protection of the trail within its conservation corridor.

Participants spoke of trails as an environmental education tool and several of the NGOs were running environmental education and conservation programs, such as citizen scientists. Engagement in pro-environmental behaviours was more likely to result in conservation activities in the future (McDougle et al., 2011). Recreating in the natural environment can lead to an increased focus on conservation, especially during early childhood (McKay, 2010; Newhouse Berns & Simpson, 2009; Place, 2004). However, many parks around the world, especially in developed countries, are experiencing a downturn in visitation and support for national parks, the disengagement correlating with the decline in support of a broader conservation objective (Weiler et al., 2013). The solution to increasing visitation to parks is through improving and extending their experiences, which is considered crucial for the survival of parks. Several participating trails had programs targeted at increasing visitor numbers, some specifically encouraging marginalised groups who would not otherwise visit trails. Trails encourage visitors to engage with nature, offering positive experiences, which can result in support for parks and broader conservation values. Participants were also aware of the value of outdoor recreation for a person's wellbeing, and some trails had contributed to research in this regard for their trail. Louv (2005) developed the term 'nature deficit disorder' to describe the effect of declining nature experiences and the consequences on the individual. (Weiler et al., 2013).

6.6.2 Negative impacts

Trails can also have negative impacts on the environment and balancing this within the broader tourism model requires careful management. The construction and ongoing use of trails impacts on the natural environment. As trail users and related businesses profit from trails within their natural environment, which is reliant on a pristine natural environment, tourism related income should, ideally, contribute towards its protection, as discussed by Newsome et al. (2013). Tourism should support conservation as the primary role of protected areas (Bushell et al., 2007). Buckley (2010) described the three way link between tourism, conservation and local communities as key features of a responsible tourism model. Bushell and McCool (2007) suggested that tourism should be a tool for conservation by "building support and raising awareness of the many important ecological, cultural, sacred, spiritual, aesthetic, recreational and economic values of protected areas." Timothy and Boyd (2015) stated that the dichotomous mandate of providing access to the outdoors and also protecting it at the same time was definitely possible through appropriate trail planning and design, public education and efforts

to mitigate effects of damaging use. Participants spoke of conservation values being met through their trail and associated activities. It was generally felt that, while there were some environmental impacts from trails, these were outweighed by the positive impacts.

6.7 Infrastructure

Trails located in protected areas are considered as part of protected area management and park infrastructure (DEC, 2013; Graham et al., 2003; "NPS," n.d.; Timothy & Boyd, 2015). Elkinton (2004) discussed trail related 'green infrastructure' as encompassing transportation, protection of fauna, flora and heritage, erosion management, interpretation and accessibility.

6.7.1 Infrastructure liability

The South Australian Trails Coordination Committee (n.d.) suggested that infrastructure liability increases with significance level, from local to national. Long distance trails are linear, set within their corridor, often with substantial infrastructure such as bridges and overnight shelters. Shorter and circular trails of local significance are less likely to entail large bridges or overnight accommodation. Trail infrastructure requires ongoing maintenance, management and upgrading, and can be time consuming to access, often in remote locations. Long distance trail management is particularly complex and expensive due to large distances, often involving volunteer assistance where limited paid staff do not reach (Timothy & Boyd, 2015). Maintenance is therefore a major cost component of trail management (ATC, 2012; DEC, 2013; "National Trails System Act," 2009; Potomac Appalachian Trail Club, n.d.).

Trails in this research had a variety of infrastructure liabilities, including the trail tread, marking and signage, toilets and shelters. The major differentiator was trails with constructed on-trail shelters versus accommodation being provided privately off-trail in communities. Another major difference was the total length, which ranged from 125 to over 4000 kilometres, the latter representing far more challenging infrastructure management. The longer trails were generally in the USA or Australia, and included overnight shelters, resulting in extensive infrastructure liability. The shorter trails were mainly European and did not include overnight shelters. The greater infrastructure liability, shelters and length, corresponded with greater volunteer engagement through a partnering NGO. The lower infrastructure liability trails were usually maintained by the relevant land owner or manager, mostly local governments. For longer trails there was generally a cross tenure management body responsible for the full length. Trail maintenance entails a large component of basic labour, such as pruning, marking and erosion management not requiring machinery, making it suitable for volunteers. Some trails had upskilled their volunteers for use of mechanised tools, including chainsaws, brush cutters and

small earth moving machinery, which further extended volunteer capacity for infrastructure management.

6.7.2 Quality trail design

The Literature Review had identified several relevant reports on environmental impacts from trails (Estela et al., 2005; Hadwen et al., 2006; Li et al., 2005; Pickering & Hill, 2009; Pickering, Hill, et al., 2010; Torbidoni, 2011; Wimpey & Marion, 2010). This had further developed into more holistic thinking about trail planning, ensuring the right trail is in the best location (DoT, 1991; Federal Highway Administration, 2012; IMBA, 2004; Proudman & Reuben, 1981; Sherman, 2012; South Australian Trails Coordination Committee, n.d.; Webber, 2007). Trails built to the highest standard minimise future maintenance requirements and environmental impacts, therefore reducing operational costs (Davis, 2012a; Newsome et al., 2013). This was not a significant issue for the trails in this research, as they had already been constructed, though it did apply to realignments.

6.8 Tourism operations

International tourism demand continues to grow worldwide, as 2015 marked the sixth year of above-average growth, with an increase from six percent in 2014 to seven percent of the world's exports in goods and services (UNWTO, 2016b). According to UNWTO (2016b) tourism has grown faster than world trade from 2011 to 2015. Combined with an international movement towards healthier lifestyles, a heightened awareness of conservation issues, and a move towards a quality experience (Hajkowicz et al., 2013; Saayman, 2009), it would appear likely that the demand for trails will continue to rise.

Initially trails were not considered in terms of tourism and economic opportunities, but rather as providing recreational opportunities (Lane, 1999). More recently trails have been thought of in terms of tourism product, with visitor services including luggage transfers, equipment hire and trail holiday package options. The *WHW* is operated and funded as a tourism product, to create economic opportunities. It operates as a business, including sale of merchandise for profit. Another example are the *Nga Haerenga* trails, where it was realised during construction that marketing and promotion had not been included in the project, but was considered vital for it to be successful. Moving from a construction project, which provided employment, the trail is now marketed by the national tourism body, creating long term sustainable employment and economic development opportunities. Since then new trails became successful tourism products, diversified to cater for new user groups and varied themes, reflecting steadily increasing use and popularity (Lane, 1999; Timothy & Boyd, 2015). According to Timothy and

Boyd (2015) most regions in the world promote a trail or route as a tourism experience these days. Only in the last decade has the economic potential of trails been investigated and understood (Beeton, 2009; Briedenhann & Wickens, 2004; Bruce, 2009; Faulks et al., 2008; Faulks et al., 2007; Spencer, 2010).

Lane (1999) was one of the first to discuss trails as a tool for tourism development that is economically productive. He suggested a handbook be developed to assist trail managers to develop the link with tourism. It took another fifteen years before the first book on trails and tourism was published (Timothy & Boyd, 2015). Lane (1999), in his publication *The Missing Link*, described six criteria that would make trails work for tourism. These were similar to the concepts of product and destination, without which a tourism product would be unsuccessful, according to *The Handbook on Tourism Product Development* (UNWTO, 2011). Timothy and Boyd (2015) and Bruce (2009) stated the economic potential of trails is considerable, and those regions which have recognised this opportunity can be identified by marketing campaigns and destination development.

Participating trail managers were mostly not familiar with tourism terminology and principles, but described trail communities as a destination, which improved the visitor experience and provided improved opportunities for participating businesses. Visitors to long trails, especially, require access to facilities and services along the route to replenish supplies and for rest days. Several trails received funding under regional development programs and described the benefits from trails for regional communities, including some formal trail community programs. Where governments could see the tourism potential of trails, increased funding was made available for their management, maintenance and promotion. Some trail managers had a clear understanding of the trail as a product, such as quality of the trail experience, standards, visitor information and merchandise, although there was generally an ad hoc approach to the application of tourism marketing strategies. The main understanding was the need to diversify funding by exploring tourism related revenues and operating models, resulting in a trend towards a tourism model. Participants also described the improved visitor experience as a result of destination development.

6.9 The trail management model

All trails in this research were of national significance, which was one selection criterion for inclusion. Despite this, trails had varying purposes and different management models beyond the definitions provided above. This research identified four types of trails from a governance perspective, each with their unique purpose and management body, which have been

introduced earlier and are described in more detail here. Governance is strongly influenced by the trail's purpose, as well as land ownership, infrastructure liability and management body (Eagles, 2008a, 2009). The unique political, economic, environmental and social context of each trail requires a model matched to these circumstances, some of which can change over time. The combination of purpose, governance and the country's unique circumstances have been combined in the following management model, utilising the trail management components. This model aims to provide approaches to trail management which aid the understanding of different types of trails, but not to exclusively determine each approach, as there will always be many variants that will influence different components.

Table 16: Trail management model

	Business	Community	Volunteer	Conservation
POLITICAL	General or Trail specific	General or Trail specific	General	General
• Country	Europe NZ	USA Australia	Asia	Africa
FUNDING	Government	Government & NGO sourced	NGO sourced	NGO sourced
• Events & Programs	External	Internal	External & internal	External
VOLUNTEERING	Staff with minimal volunteers	Volunteers supported by staff	Volunteers	Volunteers & staff
GOVERNANCE	Econ/Rec Government	Rec/Econ Government	Recreation Gov & private	Environmental Gov & private
• Purpose				
• Resource ownership	Gov/Gov	Gov/NGO	NGO	NGO
• Management body				
PARTNERSHIPS	Business	Community & business	Government, Business & community	Government, Business & community
CONSERVATION	Underlying principle	Underlying principle	Underlying principle	Prime purpose
INFRASTRUCTURE	Land owner	Across tenure	Land owner & across tenure	Land owner
• Maintenance				
• Infrastructure liability	Medium	High	Low	Low
TOURISM	Dedicated Trail & region	Limited Trail specific	Limited Trail specific	Limited Trail specific & conservation
• Marketing & promotion				

The four different approaches to the governance of trails identified in this research are described next. In addition to the eight components of trail management, relevant subsections have been added into the overview Table 16, which arose from the participants' interview analysis. The four approaches to the management of trails identified in this research are business, community, volunteering and conservation, which are described in more detail following. The different governance approaches to trail management are further reviewed in terms of their financial performance and the most financially sustainable model is presented at the end of this chapter. The focus of this model is on areas of expense and income primarily, which can be addressed within the governance approach to a trail, but it can also be achieved through a broader regional approach, which considers tourist expenditure a contribution to the trail and may be converted into direct funding of the trail by a local council or state. In that case, any of the governance approaches to trail management can be financially sustainable.

a) Business approach to the governance of trails

The prime focus of the business approach to the governance of trails is to generate income from visitors coming to the region, often considered as a form of regional development with associated government funding sources. A secondary purpose is usually recreation. The management body was made up of affected multi-local governments and regional tourism organisations, some of whom are also the land owners, through a collaborative agreement. Funding from taxes was mainly provided by management body members, in other words those who will benefit directly from bringing tourism to their area. The trail is maintained by paid staff with minimal volunteer contribution, usually in the form of marking or other basic tasks. The infrastructure is kept to a minimum and does not include overnight shelters, though can include larger bridges. Maintenance is undertaken by each land owner, usually under set standards and in collaboration with other land owners. Events are targeted externally at tourists and to promote the trail. The dedicated marketing is aimed at promoting the trail, region and trail tourism businesses. This model was found primarily in Europe and some of the New Zealand trails, in areas of higher population and visitation density, and sufficient adjacent communities able to provide overnight accommodation, meals and other services to trail users. This meant trail users were not required to carry a tent and other heavy overnight equipment, making it more accessible to a wider range of users. This approach was similar to that described by Borrini-Feyerabend (2013) in Table 3 as IUCN Type B - Shared governance, which included transboundary, joint and collaborative governance with a pluralist board or other multi-party governing body. It was not included in models discussed by Eagles (2009).

b) Community approach to the governance of trails

This section of the model takes a community approach to the governance of trails and is based on the provision of recreation services to local residents along the trail, which can cover a large area. Conservation is often a secondary purpose. The management body is made up of a collaboration between a state or national government agency and an NGO. The trail tends to traverse the tenures of different governments and therefore the prime government partner is the agency responsible for most of the trail's tenure, such as the National Park or Forest Service in the USA. The government partner provides funding to the NGO to undertake maintenance through their volunteers. The NGO will contribute funding through a range of income streams, typically membership fees, sponsorships, donations and business operations. The trail is maintained by volunteers who are supported by paid NGO staff, with volunteers undertaking advanced and complex tasks. Government staff hold environmental and statutory responsibilities, as well as for major, technically difficult infrastructure, such as large scale bridges. Infrastructure can be extensive and often includes overnight shelters, their maintenance largely undertaken by volunteers. Events and programs are targeted internally at members and trail communities. Limited marketing promotes events and programs. This model was prevalent in the USA and, with reduced volunteer responsibilities, in Australia. These trails were generally in areas of lower population and visitation densities with limited trail communities providing overnight and other tourism services, where trail users would regularly traverse multi-day sections through wilderness requiring a high level of self-sufficiency. The high maintenance liability with extensive travel to often remote locations, was managed through the use of volunteers. This approach represents the government and NGO governance model described by Eagles (2008a, 2009) in Table 5.

c) Volunteer approach to the governance of trails

Similar to the community approach, the prime purpose of the volunteering approach to the governance of trails is recreation, with economic and conservation representing potential secondary purposes. The land is owned by a combination of government and private stakeholders with trail access by multiple arrangements. An NGO manages the trail with the same types of income as per the Community Model, except in this case without the government funding. All work is undertaken by volunteers, from committee participation to managing programs and undertaking maintenance of the trail. Infrastructure liability is low, using mostly existing infrastructure which is already maintained by a third party. Marking and short built sections of trail can be managed by the volunteer work crews, with more advanced work being

contracted out, if funds are available. External events, internal programs and the trail itself are promoted with limited resources. This model was applied in Asia, where there was a volunteer culture with a strong commitment to the trail. The low infrastructure liability can be managed by volunteers despite the limited income. A large number of visitor and regional tourism businesses benefit from the trail in an area of high population and visitor density, without being required to pay for the upkeep of the trail. This approach is discussed by Eagles (2008a, 2009) as the NGO model in Table 5.

d) Conservation approach to the governance of trails

The prime purpose of this approach is conservation, with recreation as a secondary purpose. As with the volunteer approach, an NGO manages the trail, which utilises lands owned by government and privately. Income derives from operating as a business with paid staff and volunteers, as well as some grants and sponsorships. Minimal infrastructure is the responsibility of the land owners with some additional tasks, such as environmental management, being undertaken by the few staff and volunteers, as well as some tour participants. With limited resources the trail is marketed to potential tour participants, which is the only way to access the trail. Conservation messages and projects are promoted to the public. Mostly privately owned land in South Africa, including private conservancies, require access arrangements with a variety of private land owners, who are responsible for the public liability of visitors entering their properties. The very limited infrastructure can be managed by the few people involved in the trail management, for the small number of visitors who have paid for an exclusive experience in this remote location. Some of the income created through the NGO business-like operations is used for conservation purposes. The conservation approach is a variation of Eagles' (2008a, 2009) NGO model.

6.10 Financial sustainability

Sustainable tourism for protected areas is based on economic, social, environmental and cultural principles to achieve viable, long-term economic operations and a high level of tourist satisfaction (De Lacy et al., 2002; Leung et al., 2014; UNEP and WTO, 2005). Similarly, a sustainable trail provides a high quality recreational experience in a landscape and community that is capable of supporting the activity and is economically sustainable through an appropriate management model (Davis, 2012a, p. 19) (South Australian Trails Coordination Committee, n.d.). Unphress (2011) added that a trail should provide for the protection of natural resources as an overriding concept. Other points included cost effective operations, efficient maintenance, expressed by four sustainability criteria: resource, economic, experience and political. Lane

(1999) added the tourism aspects of design, marketing, product development, private sector involvement and a partnership approach.

Declining government budgets and funding concerns have resulted in discussion and exploration of diverse incomes, such as user pay options, and financial efficiency, including through use of volunteers. A recreation versus tourism purpose can further inform the operation and income models. In addition, governance models, in particular those by Eagles (2008a, 2009) for tourism in protected areas, suggest that the public and non-profit combination was the highest ranking and close to ideal, largely due to its financially efficient volunteer component combined with the government's conservation effectiveness and strong strategic vision. This was closely followed by the non-profit model with strong public participation but variable strategic vision. The national park model was medium ranked, as it was considered unresponsive, inflexible and fiscally inefficient and costly. As discussed earlier, trails are labour intensive, meaning volunteers offer a major cost saving for trail maintenance.

According to Graham et al. (2003) and Borrini-Feyerabend et al. (2013) there are no right or best options of governance types, as history, political, culture, environment, capacity and other factors determine the most appropriate governance type for a given set of circumstances, which can be different among different protected areas and countries. This was supported by participants who felt that different models would fit different settings. The trails in this research were chosen for their success, which was assumed to be a reflection of good management in combination with an appropriate governance body. Participants were generally happy with their management model, which seemed to be working for each of them. This would support the theory that different models are appropriate for their own settings, with some overriding principles in regards to income and expenditure. Those trails with a high infrastructure liability, representing extensive expenditure, needed to find ways to minimise these costs, which was primarily achieved through use of volunteers, plus potentially risky reliance on government funding. The recreation based community model provided some economic opportunity to regions, but these were not comparable to those of the business model, which had a much stronger link with trail related businesses, including provision of essential accommodation services and therefore receiving funding and support more directly from the relevant local governments. The two NGO models, volunteer and conservation, essentially survived with minimal funding due to limited infrastructure liabilities and use of volunteers.

While the management approaches worked for each of the trails in this study, each type had areas of strength and weakness. The best model therefore would address all of the weaknesses

and strengths, while still providing flexibility for different environmental and cultural settings, as well as infrastructure liabilities and purpose. This study supports Eagles' (2008a, 2009) highest ranking governance model, a government and NGO partnership, as the most effective and efficient for trails, resulting in the highest level of financial sustainability. His ten assessment categories are public participation, consensus orientation, strategic vision, responsiveness to stakeholders, effectiveness, efficiency, accountability to public and stakeholders, transparency, equity and rule of law. This study focused on financial sustainability which was incorporated in some of Eagles' categories for the determination of the best model for tourism in protected areas. He saw the use of volunteers as highly financially efficient and they also provided other benefits, such as strong public participation and aiding social cohesion. Another key strength of this partnership is a strong vision supported by a wide range of citizens, which ensures that goals are achieved and effective. The NGO partner is likely to deliver programs to minority groups, ensuring equity is high. Donations can be received via the NGO. Friends groups have an overall governance advantage over government, most likely relating to the financial effectiveness, efficiency and responsiveness.

6.10.1 Issues

Timothy and Boyd (2015) suggested that purpose built trails can fail if businesses have an insufficient understanding of the destination concept or the return is unsatisfactory, essentially within a recreation based Community model. Elkinton (2004) and others suggested that partnerships are difficult, time consuming and prone to problems, which is difficult for trails relying heavily on these. This was reflected by participants, especially those working within a volunteer based model, some of whom desired clearer communication and responsibility channels.

6.11 The financially sustainable trail management model

A business model is essential for successful and sustainable business management (Lis, 2008; Morris et al., 2005). It supports improvement and innovation through assessment and comparison against a framework or other model and predicts a particular desired outcome (Baden-Fuller & Morgan, 2010; Plummer et al., 2006). As described by one of the participants, operating without a model "trail managers fly by the seat of their pants" (Belinda). A business model is a concise representation of interrelated variables, which are assessed to create sustainable competitive advantage in defined markets (Morris et al., 2005). Financials receive the highest level of attention in a business model approach, followed by operational and strategy (Morris et al., 2005). This research sought to develop a best practice business model from the perspective of financial viability and sustainability, therefore performance and its

criterion effectiveness and efficiency were of prime interest. Specifically, long trail management business models were investigated from the perspective of a tourism product within a natural protected area. Any trail business model therefore needs to contain components of conservation, tourism, infrastructure and community involvement.

Trail managers could not identify or name their trail business management model, and they did not specifically apply any particular model but through this research four management models were identified, which are closely linked with some of Eagles' models (2008a, 2009). The community approach (Table 17), a partnership between government and NGO, closely matched Eagles' public and non-profit version. It was considered close to ideal by those participants who were working under a different model, and it was the only one that participants could roughly define, referring to it as the '*Appalachian Trail* model'. The volunteer and conservation approaches related to Eagles' non-profit, but varied in purpose and income streams. The Business approach is probably most closely related to Eagles' national park example, but made up of several, more regionally based government organisations, including some tourism based non-land managers. Some of Eagles' critiques, therefore, do not apply in the same way, as local governments, and especially tourism organisations, would likely be more responsive than a state or national agency.

Table 17: Financially sustainable trail management model

Community	
POLITICAL	Trail specific legislation
FUNDING	Government NGO sourced Business operations Business contribution
CULTURE OF VOLUNTEERING	Strong and popular
GOVERNANCE <ul style="list-style-type: none"> • Purpose • Resource ownership • Management body • Staffing 	Recreation & economic Government Government/NGO Volunteers with staff support
PARTNERSHIPS	Government, business & community groups
CONSERVATION	Complimentary
INFRASTRUCTURE <ul style="list-style-type: none"> • Maintenance • Infrastructure liability 	Across tenure to ensure standards Reflective of volunteer contribution and visitation level
TOURISM	Dedicated to trail and destination

These broad terms also applied to trails, though this study focused on criteria relating to financial sustainability, which is about bringing income and expenditure into balance. Therefore, maximising income opportunities through diverse sources was a key criterion. The government and NGO partnership, where the NGO can also operate as a business, provides for most income opportunities, including direct government funding, grants, donations, sponsorships, memberships, user pays and business operations. In addition, those businesses that benefit contribute a substantial amount back to the trail, relative to their benefit.

To reduce expenditure, the use of volunteers in trail management is vital. The higher the overheads, such as infrastructure liabilities, the more important volunteers become. Ideally, the trail should be managed across all tenure to ensure consistent standards are applied, providing a consistent experience to visitors that they can rely on, and which is appropriately branded. To gain maximum benefit from a trail, a tourism framework addresses the trail as a product within the destination, including development, marketing and promotion. Benefits are limited if the trail is not known to visitors, or they cannot get there and there are no supportive services. Trails are multi-faceted and it would be impossible for the governance body to cover all aspect of its management. Therefore, targeted partnerships can fill the gaps, though they should be limited to this purpose only, as they are time consuming and can be resource intensive. Specifically, businesses can benefit extensively from trails and can therefore make suitable partners to fill gaps, while also providing benefits back to the trail.

This financially sustainable model can be adapted to different settings and priority areas, reflective of those discussed for Business, Community, Volunteer and Conservation. For example, a trail with limited infrastructure liability may not require as many volunteers, as the maintenance obligation is limited. Tourism in protected areas is reliant on its conservation and natural beauty, therefore any trail needs to be managed in support of conservation values, for which it can be an income source (Bushell & McCool, 2007; Newsome et al., 2013; Page, 2009). Trail models therefore need to ensure that they are complimentary to conservation, and that any negative impacts are outweighed by positive conservation outputs, including education and corridor protection.

6.12 Chapter summary

This chapter further drew out the emerging themes from the Findings and related, compared and analysed these against literature and existing theory. The components internal and external to trail management continued to be combined to fully reflect the participants' view from an operational and internal perspective. Through this process, a model with four approaches to the

governance of trails was identified, all of which worked successfully for each trail and within its unique setting. Most of these were similar to governance models considered highest ranking by Eagles (2008a, 2009). Some key variables of success were identified which provided indicators for financial sustainability. High infrastructure liability correlated with extensive volunteer engagement. No provision of overnight on-trail shelters correlated with higher density population and visitation, making a trail more likely to be a viable business operation from a regional perspective. The best practice trail management model was presented on the basis of financial sustainability for a tourism product in a protected area.

Chapter Seven – Conclusion

This study investigated how the management of long distance trails addresses the challenges of financial sustainability, and what models were used to achieve this. To answer the prime research question, responses to the secondary questions were required. The particular complexities of long trails, responding to the fourth of the secondary research questions, included their distance and overnight nature, often with multiple access points. Overnight accommodation may be provided in communities off trail, like the *West Highland Way*, or shelters with tent sites are provided on the trail, as for the *Munda Biddi Trail*. A lack of control points makes it difficult to charge user fees, and the length impacts negatively on travel time of rangers to check passes, resulting in trails usually being complimentary (Timothy & Boyd, 2015). Distances, accessibility issues to often remote areas, and high infrastructure liabilities increase costs for maintenance and management. Long trails are likely to have trailheads at either end, and perhaps at key access points, but they tend not to have a trail hub, which could present an income stream for trail networks, such as from visitor centres, shops, cafes, repair places and parking. Long trails generally cross local, state and sometimes country borders, including multiple tenures, requiring cooperation amongst the different land owners and the trail manager. The complexity and expense of long trail management was one of the reasons for this study.

The focus of this study was trail management within a tourism framework, with particular attention to protected areas. Long trails in this study, as a tourism product, needed to traverse at least one protected area. For this study to be internationally representative, trails were chosen from across the world. This also ensured that many different trail management models were included, as trails are often managed similarly within each country. To identify exemplary trails, assumed to have a well-functioning management model, they were chosen from the National Geographic 'Best Trails' (National Geographic, n.d.) on the basis of their award and accessibility. Other trails were added, on advice of trail experts, to extend the management models and increase the international coverage. Ten trails were included in this study, covering Australasia, Africa, America and Europe.

The literature review identified limited trail specific research for tourism or management models, requiring the inclusion of broader tourism, protected area and management publications. With limited research into the area of investigation the interpretative social

science paradigm represented the framework for this qualitative multiple case study comparison, utilising interviews, written documentation and observations.

Yin's (2014) third format for presenting multiple case study reports was applied in this research, meaning the report was set out and analysed in order of the questions. Application of his second format, presenting individual cases that are cross-case analysed in later chapters, could have provided a different perspective and a more direct comparison between individual trails. But with Yin's second format it would not have been possible to protect trail managers' identities, as there are often only one or two key managers per trail, which led to the application of the third approach.

To identify the elements of trail management, factors were identified, which were later confirmed by participants, as components of trail management, answering the third of the secondary research questions. These provided the basis for the comparative analysis. Factors were divided into external components, made up of political, funding and volunteering, and the internal components were governance, partnerships, conservation, infrastructure and tourism. Eagles (2008a, 2009) had analysed governance models for tourism in protected areas through the investigation of three functional aspects: the resource ownership, income source and management body. The three functional aspects, as well as some of Eagles' performance criteria, provided the basis for the investigation and analysis of trails and their components. He identified several governance models, with the government and NGO partnership ranking the highest. This study identified four main approaches to the governance of trails, described as business, community, volunteer and conservation. These approaches to trail management provide the answer to the first of the secondary research questions: how the selected trails are managed. The governance body included a combination of partners, similar to Eagles', ranging from collaborative government, to government and NGO, or NGO only. Each was successful for its trail, within their specific environmental, cultural and economic settings. These partnerships are part of the management body, and they provide a partial response to the second of the secondary questions.

This study focused on financial sustainability and therefore some different criteria were applied than Eagles' (2008b) ten performance criteria. These criteria were based on increasing income through tourism operations and reducing expenditure by engaging volunteers and keeping the infrastructure liability relative to the gain and volunteer contribution. The political and funding categories provided information for different funding models, to some extent based on a country's approaches to protected area and tourism management. Diverse income streams

rated highly, especially in an environment of government funding reductions. This included government funding, grants, donations, memberships, sponsorships and business operations. Reduction of expenditure was the other key consideration, which was achieved through the use of volunteers. The highest ranking government and NGO partnership, according to Eagles, was also considered the best model for trails, as it provided the most income opportunities and the least expenditure through volunteer contribution. Limiting infrastructure liabilities and using volunteers are two key factors of how trails have achieved sustainable trail management, answering the fifth of the secondary research questions.

To further the financial sustainability of trails, the application of a tourism framework encourages higher visitation, or perhaps more targeted visitation, which increases money spent while visiting the trail. This represents the additional factor in achieving sustainable trail management. The tourism framework requires the trail to be developed and managed as a tourism product, providing a service and experience to visitors, and creating income opportunities through business operations. The other key aspect of a tourism framework is destination development and management, which includes transport to the region and trail, accommodation, food and other services. This makes it appealing, and easier, for visitors. Branding of the trail within its destination allows visitors to make quick decisions about wanting to further research this for their next holiday. This is important in a competitive market, with many popular trail destinations having emerged around the world during the last century. Many governments are reducing their funding with the intent that trails gain financial independence and receive income from other sources, moving towards a user pay system. Those trail managers not understanding tourism concepts may not identify income opportunities and are likely to experience a reduction in their overall funding in years to come. Similarly, the trails currently operating under a business approach can extend their budgets, operations and community participation through an increased use of volunteers and NGO partnerships. Many of these aspects are addressed through formal or informal partnerships, some of which may be represented on the management body. Tourism related partnerships, as well as those used for infrastructure management and conservation activities, represent the additional answer to the second of the secondary question: identifying the partners.

The management of trails therefore addresses the challenges of financial sustainability through a complex mix of infrastructure liabilities with corresponding volunteer use, as well as generating income through a variety of means. The four different approaches outline the applied models to achieve this, which answers the prime research question. Trails in this study have

succeeded in very different cultural, environmental and economic settings and it is important to note that differences represent a variety of challenges and opportunities. High population and visitation areas will have more visitors on trails, resulting in more money being spent than those with low population and visitation, often in more remote regions. Governments tend to provide services where they are not financially viable to be operated by private business, and are considered important for the greater good. For some trails operating under a successful tourism framework, most services and some trail maintenance are provided by business, who directly profit from the trail, such as the *Otago Trail* in New Zealand. Nevertheless, it would be difficult to fully fund a trail from tourism related income, unless it offered a spectacular experience and saw a sufficiently high number of visitors per area coverage. To determine what percentage should be contributed through each income stream towards the total trail management expenses, it might be helpful to identify those benefiting, as well as those capable of providing funding. Government may then be required to fill any gaps, where corporate and private are unable to provide. Trails are often not considered as essential services, such as healthcare or education, and governments are likely to reduce their funding commitments where possible.

7.1 Future use

The literature review identified a gap about trail business management models, and the findings of this research will be a contribution to this area. This research built on definitions and concepts about sustainable trail management outlined in this research, such as those by the South Australian Trails Coordination Committee (n.d.), Timothy and Boyd (2015), Unphress (2011), Lane (1999) and Davis (2012a). Downs (2000) and Namgyel (2011) investigated trails from a governance perspective, with Brinkley (2013) offering the only (unpublished) research into trail management models.

There is a causal association between quality of governance, quality of conservation and a tourism experience, according to Eagles (2009). Lis (2008) and Morris et al. (2005) consider a business model vital for successful and sustainable business management, which allows assessment against a framework, comparison against other models, improvement, innovation and copying (Baden-Fuller & Morgan, 2010; Plummer, Kulczycki, & Stacey, 2006). Models and approaches to sustainable trail management described in this research offer valuable concepts that contribute to a better understanding of the way trails are being managed, and therefore improve their sustainability. This is an advancement from previous thinking which addressed issues of trail sustainability from a physical infrastructure perspective, but not its overall management. In particular this research has built on Eagles' (2008, 2009) investigation and models of governance for the combination of parks, recreation and tourism from a trails

perspective. Future research into trails, particularly around governance and financial sustainability, can build on findings presented here.

In addition to filling a gap in the literature about trail business management models, it was also hoped that this study could provide information, models and frameworks for trail managers, so that they can improve their operations and improve financial sustainability of their trail. While it is difficult to generalise from case study research, the research findings provide new ideas and thinking around trail management. It should also offer a better understanding of the individual trail management components and provide guidance towards improving financial sustainability. This information can be used to assist trail managers in developing financially, environmentally, socially and culturally sustainable trails.

Business research generates knowledge and understanding of phenomena and problems in various settings, as well as helping managers to identify and solve problems (Allen et al., 2014). This research has provided approaches and models for financially sustainable trail management, which has extended the available literature and provided guidance to trail managers. The financially sustainable trail management model developed through this research is likely to be useful for the management of other types of trails, because this study investigated long trails, which are the most difficult and expensive. Baden-Fuller and Morgan (2010) support the transferability of models components to a similarly classed group. Further research is required to ascertain transferability of the results of this study to other types of trails and develop theory. Further research would extend this relatively small study sample and further the development of the best model, as well as adapt variations for different trail settings.

7.2 Recommendations

Further research into trails addressing their management would provide further content towards the literature gap and provide information, guidance and frameworks for trail managers. Future research should specifically cover:

1. Trail business management models and their application.
2. Trails within a tourism framework that addresses future funding sources.
3. Theory development for trail management which can be duplicated and tested.
4. Implementation of the findings from this thesis.
5. For a different perspective apply Yin's (2014) second reporting format for multiple case studies consisting of several single case studies, if the confidentiality of participants can be ensured.

This research supports the notion by Eagles (2009) to systematically apply his ten governance criteria to the management of tourism in protected areas, as well as trails, to establish and improve governance.

In the absence of better developed trail management models, managers can review their trail and its management with the information provided in this study. Principles provided for increasing income and reducing expense should provide guidance in decision making and new model development.

Peak trail organisations, such as the World Trails Network, American Trails Association and the European Ramblers could support the development of trail management by keeping records of their trail member organisations, including their operating models. They could also support funding programs that underwrite research.

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Appendices

Appendix 1

QUALITATIVE GUIDING QUESTIONS FOR INTERVIEWS

For the pilot the questions will be posed more general, as these experts are mostly not trail managers.

Information about person

1. What is your relationship to the trail?

Conservation

2. What is the input into conservation?
3. How is conservation and legally mandated protection managed?

Trail maintenance & management

4. How long is your trail? What infrastructure is there?
5. How is the maintenance being managed?
6. What do you think are the particular issues and complexities of your trail?

Marketing & promotion

7. How many visitors per year? How do you know this?
8. How is the trail marketed and promoted? Who is involved in this and what is the arrangement?
9. What is the importance of the trail for the towns and communities along the trail and what involvement is there with these trail communities?
10. What is the benefit to the community, and what is their involvement with the trail?
11. What is the destination management of the trail and its communities?
12. What is the trails product development? Branding?

Funding

13. What is the income for the trail/destination? What is the expenditure for the trail?
14. How sustainably do you consider your trail is managed, in particular the financial aspect?
15. What are the areas that work well and which could be improved?
16. What are the income sources for the trail? What are the cash and in kind components?

Partnerships

17. Who are the partners and stakeholders of your trail?
18. How are the roles split between the partners? What are the different roles?
19. Is there a lead manager?
20. What types of agreements are there between the partners and stakeholders?
21. How well do you think this is working? What do you think could be improved?

Big picture questions

22. How do you think trails could be best managed sustainably?
23. What are the key aspects?
24. What do you think are the difficulties for long trails?
25. Can you describe your ideal trail management model?
26. Anything else you would like to add?
27. Is there anyone else you suggest I should talk to?